

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: June 3, 2005, 12:44:18 ; Search time 22 Seconds

(without alignments)
386.818 Million cell updates/sec

Title: US-10-791-619-12

Perfect score: 625

Sequence: 1 EVOLVESGGGLVPGGSLRL.....YCARSHYFGHHPAVWGOG 114

Scoring table: BIOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database : Issued Patents AA:*

- 1: /cgn2_6/ptodata/1/1aa/5A_COMB.pep:*
- 2: /cgn2_6/ptodata/1/1aa/5B_COMB.pep:*
- 3: /cgn2_6/ptodata/1/1aa/6A_COMB.pep:*
- 4: /cgn2_6/ptodata/1/1aa/6B_COMB.pep:*
- 5: /cgn2_6/ptodata/1/1aa/PCtUS_COMB.pep:*
- 6: /cgn2_6/ptodata/1/1aa/backfile1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	625	100.0	114	2	US-08-887-352B-12
2	625	100.0	114	3	US-09-109-207C-12
3	625	100.0	114	4	US-09-296-005-12
4	625	100.0	114	4	US-09-920-171-12
5	625	100.0	114	4	US-09-716-028-12
6	625	100.0	114	4	US-10-113-996-12
7	625	100.0	229	2	US-08-887-352B-20
8	625	100.0	229	3	US-09-109-207C-20
9	625	100.0	229	3	US-09-296-005-20
10	625	100.0	229	4	US-09-920-171-20
11	625	100.0	229	4	US-09-716-028-20
12	625	100.0	229	4	US-10-113-996-20
13	625	100.0	233	2	US-08-887-352B-25
14	625	100.0	233	3	US-09-109-207C-25
15	625	100.0	233	3	US-09-296-005-25
16	625	100.0	233	4	US-09-920-171-25
17	625	100.0	233	4	US-09-716-028-25
18	625	100.0	233	4	US-10-113-996-25
19	625	100.0	248	2	US-08-887-352B-32
20	625	100.0	248	3	US-09-109-207C-32
21	625	100.0	248	3	US-09-296-005-32
22	625	100.0	248	4	US-09-920-171-32
23	625	100.0	248	4	US-09-716-028-32
24	625	100.0	248	4	US-10-113-996-32
25	625	100.0	451	2	US-08-887-352B-14
26	625	100.0	451	2	US-08-887-352B-16
27	625	100.0	451	3	US-08-466-151-65

28	625	100.0	451	3	US-09-109-207C-14	Sequence 14, Appl
29	625	100.0	451	3	US-09-109-207C-16	Sequence 16, Appl
30	625	100.0	451	3	US-09-296-005-14	Sequence 14, Appl
31	625	100.0	451	3	US-09-296-005-16	Sequence 16, Appl
32	625	100.0	451	4	US-09-920-171-14	Sequence 14, Appl
33	625	100.0	451	4	US-09-920-171-16	Sequence 16, Appl
34	625	100.0	451	4	US-09-716-028-14	Sequence 14, Appl
35	625	100.0	451	4	US-09-716-028-16	Sequence 16, Appl
36	625	100.0	451	4	US-10-113-996-14	Sequence 14, Appl
37	625	100.0	451	4	US-10-113-996-16	Sequence 16, Appl
38	605	96.8	121	2	US-08-887-352B-3	Sequence 3, Appl
39	605	96.8	121	3	US-09-109-207C-3	Sequence 3, Appl
40	605	96.8	121	3	US-09-296-005-3	Sequence 3, Appl
41	605	96.8	121	4	US-09-920-171-3	Sequence 3, Appl
42	605	96.8	121	4	US-09-716-028-3	Sequence 3, Appl
43	605	96.8	121	4	US-10-113-996-3	Sequence 3, Appl
44	605	96.8	453	3	US-08-466-151-8	Sequence 8, Appl
45	605	96.8	453	3	US-08-466-163B-8	Sequence 8, Appl

ALIGNMENTS

RESULT 1
US-08-887-352B-12
Sequence 12, Application US/08887352B
Patent No. 5994511
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
TITLE OF INVENTION: Improving Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winpatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/887,352B
FILING DATE: 03-Jul-1997
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1123
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
LENGTH: 114 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-887-352B-12
Query Match 100.0%; Score 625; DB 2; Length 114;
Best Local Similarity 100.0%; Pred. No. 4.6e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVOLVESGGGLVPGGSLRLSCAIVGYSITSGYGMNTRQAPGKLEWVASITDGSTNY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAIVGYSITSGYGMNTRQAPGKLEWVASITDGSTNY 60
QY 61 NPSYKGRITTSRDSKNTFTYQNNLSRAEDTAIVYVCARSGHYFGHHPAVWGOG 114
DB 61 NPSYKGRITTSRDSKNTFTYQNNLSRAEDTAIVYVCARSGHYFGHHPAVWGOG 114

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RESULT 2
US-09-109-207C-12
; Sequence 12, Application US/09109207C
; Patent No. 6172313
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/109,207C
; PRIOR FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; NUMBER OF SEQ ID NOS: 44
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-114
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-109-207C-12
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Query Match      100.0%; Score 625; DB 3; Length 114;
Best Local Similarity 100.0%; Pred. No. 4.6e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Qy      1 EVOLVESGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLRWASITTDGSTNY 60
Db      1 EVOLVESGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLRWASITTDGSTNY 60
Qy      61 NPSVKGRITISRDSKNTFYLQNMNLSRAEDTAVYYCARSGSHYFGHMFPAWVGQ 114
Db      61 NPSVKGRITISRDSKNTFYLQNMNLSRAEDTAVYYCARSGSHYFGHMFPAWVGQ 114
```

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RESULT 3
US-09-296-005-12
; Sequence 12, Application US/09296005
; Patent No. 6290957
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123C1
; CURRENT APPLICATION NUMBER: US/09/296,005
; PRIOR FILING DATE: 1999-04-21
; EARLIER APPLICATION NUMBER: US 08/887,352
; EARLIER FILING DATE: 1997-07-02
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 12
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-114
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-296-005-12
```

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Query Match      100.0%; Score 625; DB 3; Length 114;
Best Local Similarity 100.0%; Pred. No. 4.6e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Qy      1 EVOLVESGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLRWASITTDGSTNY 60
Db      1 EVOLVESGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLRWASITTDGSTNY 60
Qy      61 NPSVKGRITISRDSKNTFYLQNMNLSRAEDTAVYYCARSGSHYFGHMFPAWVGQ 114
Db      61 NPSVKGRITISRDSKNTFYLQNMNLSRAEDTAVYYCARSGSHYFGHMFPAWVGQ 114
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RESULT 4
US-09-920-171-12
; Sequence 12, Application US/09920171
; Patent No. 6682735
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
; FILE REFERENCE: P1123C2US
; CURRENT APPLICATION NUMBER: US/09/920,171
; PRIOR FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 12
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-920-171-12
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```
Query Match      100.0%; Score 625; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 4.6e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Qy      1 EVOLVESGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLRWASITTDGSTNY 60
Db      1 EVOLVESGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLRWASITTDGSTNY 60
Qy      61 NPSVKGRITISRDSKNTFYLQNMNLSRAEDTAVYYCARSGSHYFGHMFPAWVGQ 114
Db      61 NPSVKGRITISRDSKNTFYLQNMNLSRAEDTAVYYCARSGSHYFGHMFPAWVGQ 114
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RESULT 5
US-09-716-028-12
; Sequence 12, Application US/09716028
; Patent No. 6723833
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/716,028
; PRIOR FILING DATE: 2000-11-17
; PRIOR APPLICATION NUMBER: US 09/109,207
; PRIOR FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 12
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-114
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-716-028-12
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Query Match      100.0%; Score 625; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 4.6e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Qy      1 EVOLVESGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLRWASITTDGSTNY 60
Db      1 EVOLVESGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLRWASITTDGSTNY 60
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Qy 61 NPSYKGRITTSRDSKNTFYLMNMSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114
Db 61 NPSYKGRITTSRDSKNTFYLMNMSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114

RESULT 6
US-10-113-996-12
; Sequence 12, Application US/10113996
; Patent No. 6761889
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-1GE Antibodies
; FILE REFERENCE: P1123CJUS
; CURRENT APPLICATION NUMBER: US/10/113,996
; CURRENT FILING DATE: 2002-04-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: US 09/920,171
; PRIOR FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 12
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-10-113-996-12

Query Match 100.0%; Score 625; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 4,6e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVOPGSGLRISCAVSGYSITSGYSMMNIRQAPGKLEWVASITVDGSNTY 60
Db 1 EVOLVESGGGLVOPGSGLRISCAVSGYSITSGYSMMNIRQAPGKLEWVASITVDGSNTY 60

Qy 61 NPSYKGRITTSRDSKNTFYLMNMSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114
Db 61 NPSYKGRITTSRDSKNTFYLMNMSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114

RESULT 7
US-08-887-352B-20
; Sequence 20, Application US/08887352B
; Patent No. 5994511
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-1GE Antibodies and Method of
; TITLE OF INVENTION: Improving Polypeptides
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Minipactin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/887,352B
; FILING DATE: 03-Jul-1997
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Svoboda, Craig G.

REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1123
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 20:
SEQUENCE CHARACTERISTICS:
LENGTH: 229 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-887-352B-20

Query Match 100.0%; Score 625; DB 2; Length 229;
Best Local Similarity 100.0%; Pred. No. 1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVOPGSGLRISCAVSGYSITSGYSMMNIRQAPGKLEWVASITVDGSNTY 60
Db 1 EVOLVESGGGLVOPGSGLRISCAVSGYSITSGYSMMNIRQAPGKLEWVASITVDGSNTY 60

Qy 61 NPSYKGRITTSRDSKNTFYLMNMSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114
Db 61 NPSYKGRITTSRDSKNTFYLMNMSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114

RESULT 8
US-09-109-207C-20
; Sequence 20, Application US/09109207C
; Patent No. 6172213
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-1GE Antibodies and Method of Improving Polypeptide
; FILE REFERENCE: P1123RI
; CURRENT APPLICATION NUMBER: US/09/109,207C
; CURRENT FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 20
; LENGTH: 229
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-229
; OTHER INFORMATION: Heavy chain F(ab) sequence derived from MAE11
US-09-109-207C-20

Query Match 100.0%; Score 625; DB 3; Length 229;
Best Local Similarity 100.0%; Pred. No. 1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVOPGSGLRISCAVSGYSITSGYSMMNIRQAPGKLEWVASITVDGSNTY 60
Db 1 EVOLVESGGGLVOPGSGLRISCAVSGYSITSGYSMMNIRQAPGKLEWVASITVDGSNTY 60

Qy 61 NPSYKGRITTSRDSKNTFYLMNMSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114
Db 61 NPSYKGRITTSRDSKNTFYLMNMSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114

RESULT 9
US-09-296-005-20
; Sequence 20, Application US/09296005
; Patent No. 6290957
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-1GE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123CJit
; CURRENT APPLICATION NUMBER: US/09/296,005
; CURRENT FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: US 08/887,352
; EARLIER FILING DATE: 1997-07-02

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/ NUMBER OF SEQ ID NOS: 26
/ SEQ ID NO 20
/ LENGTH: 229
/ TYPE: PRT
/ ORGANISM: Artificial
/ FEATURE:
/ NAME/KEY: Artificial
/ LOCATION: 1-229
/ OTHER INFORMATION: Heavy chain F(ab) sequence derived from MAE11
US-09-296-005-20
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Query Match          100.0%; Score 625; DB 3; Length 229;
Best Local Similarity 100.0%; Pred. No. 1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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```
QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
D 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
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QY 61 NPSVKGRIITSRDSSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMHPAVWGOG 114
D 61 NPSVKGRIITSRDSSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMHPAVWGOG 114
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RESULT 10
US-09-920-171-20
/ Sequence 20, Application US/09920171
/ Patent No. 6682735
/ GENERAL INFORMATION:
/ APPLICANT: Lowman, Henry B.
/ APPLICANT: Presta, Leonard G.
/ APPLICANT: Jardieu, Paula M.
/ APPLICANT: Lowe, John
/ TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
/ FILE REFERENCE: P1123C2US
/ CURRENT APPLICATION NUMBER: US/09/920,171
/ CURRENT FILING DATE: 2001-08-01
/ PRIOR APPLICATION NUMBER: US 08/887,352
/ PRIOR FILING DATE: 1997-07-02
/ PRIOR APPLICATION NUMBER: US 09/296,005
/ PRIOR FILING DATE: 1999-04-21
/ NUMBER OF SEQ ID NOS: 44
/ SEQ ID NO 20
/ LENGTH: 229
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Heavy chain F(ab) sequence derived from MAE11
US-09-920-171-20
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```
Query Match          100.0%; Score 625; DB 4; Length 229;
Best Local Similarity 100.0%; Pred. No. 1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
D 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
```

```
QY 61 NPSVKGRIITSRDSSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMHPAVWGOG 114
D 61 NPSVKGRIITSRDSSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMHPAVWGOG 114
```

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RESULT 11
US-09-716-028-20
/ Sequence 20, Application US/09716028
/ Patent No. 6723833
/ GENERAL INFORMATION:
/ APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
/ TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
/ FILE REFERENCE: P1123R1
/ CURRENT APPLICATION NUMBER: US/09/716,028
/ CURRENT FILING DATE: 2000-11-17
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/ PRIOR APPLICATION NUMBER: US 09/109,207
/ PRIOR FILING DATE: 1998-06-30
/ PRIOR APPLICATION NUMBER: US 60/051,554
/ PRIOR FILING DATE: 1997-07-03
/ NUMBER OF SEQ ID NOS: 44
/ SEQ ID NO 20
/ LENGTH: 229
/ TYPE: PRT
/ ORGANISM: Artificial
/ FEATURE:
/ NAME/KEY: Artificial
/ LOCATION: 1-229
/ OTHER INFORMATION: Heavy chain F(ab) sequence derived from MAE11
US-09-716-028-20
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Query Match          100.0%; Score 625; DB 4; Length 229;
Best Local Similarity 100.0%; Pred. No. 1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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```
QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
D 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
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```
QY 61 NPSVKGRIITSRDSSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMHPAVWGOG 114
D 61 NPSVKGRIITSRDSSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMHPAVWGOG 114
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RESULT 12
US-10-113-996-20
/ Sequence 20, Application US/10113996
/ Patent No. 6761889
/ GENERAL INFORMATION:
/ APPLICANT: Lowman, Henry B.
/ APPLICANT: Presta, Leonard G.
/ APPLICANT: Jardieu, Paula M.
/ APPLICANT: Lowe, John
/ TITLE OF INVENTION: Improved Anti-IgE Antibodies
/ FILE REFERENCE: P1123C3US
/ CURRENT APPLICATION NUMBER: US/10/113,996
/ CURRENT FILING DATE: 2002-04-01
/ PRIOR APPLICATION NUMBER: US 08/887,352
/ PRIOR FILING DATE: 1997-07-02
/ PRIOR APPLICATION NUMBER: US 09/296,005
/ PRIOR FILING DATE: 1999-04-21
/ PRIOR APPLICATION NUMBER: US 09/920,171
/ PRIOR FILING DATE: 2001-08-01
/ NUMBER OF SEQ ID NOS: 44
/ SEQ ID NO 20
/ LENGTH: 229
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Heavy chain F(ab) sequence derived from MAE11
US-10-113-996-20
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```
Query Match          100.0%; Score 625; DB 4; Length 229;
Best Local Similarity 100.0%; Pred. No. 1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
D 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
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```
QY 61 NPSVKGRIITSRDSSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMHPAVWGOG 114
D 61 NPSVKGRIITSRDSSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMHPAVWGOG 114
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RESULT 13
US-08-887-352B-25
/ Sequence 25, Application US/08887352B
/ Patent No. 5994511
```

GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-1GE Antibodies and Method of
TITLE OF INVENTION: Improving Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESSES:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatIn (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/887,352B
FILING DATE: 03-Jul-1997
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Svododa, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1123
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 25:
SEQUENCE CHARACTERISTICS:
LENGTH: 233 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-887-352B-25

Query Match 100.0%; Score 625; DB 2; Length 233;
Best Local Similarity 100.0%; Pred. No. 1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVLVESGGGLVPGGSLRLSCAASGYSITSGYSMMNIRQAPGKGLHWASITTDGSTNY 60
DB 1 EVLVESGGGLVPGGSLRLSCAASGYSITSGYSMMNIRQAPGKGLHWASITTDGSTNY 60
QY 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMHPAWVGOG 114
DB 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMHPAWVGOG 114

RESULT 14
US-09-109-207C-25
Sequence 25, Application US/09109207C
Patent No. 6172213
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-1GE Antibodies and Method of Improving Polypeptide
FILE REFERENCE: P1123R1
CURRENT APPLICATION NUMBER: US/09/109,207C
CURRENT FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 25
LENGTH: 233
TYPE: PRT
ORGANISM: Artificial
FEATURE:
NAME/KEY: Artificial sequence
LOCATION: 1-233
OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
US-09-109-207C-25
Query Match 100.0%; Score 625; DB 3; Length 233;
Best Local Similarity 100.0%; Pred. No. 1e-53;

Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVLVESGGGLVPGGSLRLSCAASGYSITSGYSMMNIRQAPGKGLHWASITTDGSTNY 60
DB 1 EVLVESGGGLVPGGSLRLSCAASGYSITSGYSMMNIRQAPGKGLHWASITTDGSTNY 60
QY 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMHPAWVGOG 114
DB 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMHPAWVGOG 114

RESULT 15
US-09-296-005-25
Sequence 25, Application US/09296005
Patent No. 6290957
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-1GE Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123C1r
CURRENT APPLICATION NUMBER: US/09/296,005
CURRENT FILING DATE: 1999-04-21
EARLIER APPLICATION NUMBER: US 08/887,352
EARLIER FILING DATE: 1997-07-02
NUMBER OF SEQ ID NOS: 26
SEQ ID NO 25
LENGTH: 233
TYPE: PRT
ORGANISM: Artificial
FEATURE:
NAME/KEY: Artificial sequence
LOCATION: 1-233
OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
US-09-296-005-25

Query Match 100.0%; Score 625; DB 3; Length 233;
Best Local Similarity 100.0%; Pred. No. 1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVLVESGGGLVPGGSLRLSCAASGYSITSGYSMMNIRQAPGKGLHWASITTDGSTNY 60
DB 1 EVLVESGGGLVPGGSLRLSCAASGYSITSGYSMMNIRQAPGKGLHWASITTDGSTNY 60
QY 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMHPAWVGOG 114
DB 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMHPAWVGOG 114

RESULT 16
US-09-920-171-25
Sequence 25, Application US/09920171
Patent No. 6682735
GENERAL INFORMATION:
APPLICANT: Lowman, Henry B.
APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
TITLE OF INVENTION: Improved Anti-1GE Antibodies (as amended)
FILE REFERENCE: P1123C2US
CURRENT APPLICATION NUMBER: US/09/920,171
CURRENT FILING DATE: 2001-08-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 25
LENGTH: 233
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
US-09-920-171-25

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Query Match      100.0%; Score 625; DB 4; Length 233;
Best Local Similarity 100.0%; Pred. No. 1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLFWASITYDGSNTY 60
DB      1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLFWASITYDGSNTY 60
QY      61 NPSVKRITITSRDSKNTFTYLNQNSLRABDTAVYYCARSGSHYFGHMFPAVMGQG 114
DB      61 NPSVKRITITSRDSKNTFTYLNQNSLRABDTAVYYCARSGSHYFGHMFPAVMGQG 114

RESULT 17
US-09-716-028-25
; Sequence 25, Application US/09716028
; Patent No. 6723833
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/716,028
; PRIOR FILING DATE: 2000-11-17
; PRIOR APPLICATION NUMBER: US 09/109,207
; PRIOR FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 25
; LENGTH: 233
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial sequence
; LOCATION: 1-233
; OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
US-09-716-028-25

Query Match      100.0%; Score 625; DB 4; Length 233;
Best Local Similarity 100.0%; Pred. No. 1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLFWASITYDGSNTY 60
DB      1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLFWASITYDGSNTY 60
QY      61 NPSVKRITITSRDSKNTFTYLNQNSLRABDTAVYYCARSGSHYFGHMFPAVMGQG 114
DB      61 NPSVKRITITSRDSKNTFTYLNQNSLRABDTAVYYCARSGSHYFGHMFPAVMGQG 114

RESULT 18
US-10-113-996-25
; Sequence 25, Application US/10113996
; Patent No. 6761889
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies
; FILE REFERENCE: P1123C3US
; CURRENT APPLICATION NUMBER: US/10/113,996
; CURRENT FILING DATE: 2002-04-01
; PRIOR APPLICATION NUMBER: US 06/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: US 09/920,171
; PRIOR FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 25
; LENGTH: 233
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```
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
US-10-113-996-25

Query Match      100.0%; Score 625; DB 4; Length 233;
Best Local Similarity 100.0%; Pred. No. 1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLFWASITYDGSNTY 60
DB      1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLFWASITYDGSNTY 60
QY      61 NPSVKRITITSRDSKNTFTYLNQNSLRABDTAVYYCARSGSHYFGHMFPAVMGQG 114
DB      61 NPSVKRITITSRDSKNTFTYLNQNSLRABDTAVYYCARSGSHYFGHMFPAVMGQG 114

RESULT 19
US-08-887-352B-22
; Sequence 22, Application US/08887352B
; Patent No. 5994511
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
; TITLE OF INVENTION: Improving Polypeptides
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESS: Genentech, Inc.
; STREET: 1 DNA way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatIn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/887,352B
; FILING DATE: 03-Jul-1997
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Svoboda, Craig G.
; REGISTRATION NUMBER: 39,044
; REFERENCE/DOCKET NUMBER: P1123
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-1489
; TELEFAX: 650/952-9881
; INFORMATION FOR SEQ ID NO: 22:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 248 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
US-08-887-352B-22

Query Match      100.0%; Score 625; DB 2; Length 248;
Best Local Similarity 100.0%; Pred. No. 1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLFWASITYDGSNTY 60
DB      1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRQAPGKGLFWASITYDGSNTY 60
QY      61 NPSVKRITITSRDSKNTFTYLNQNSLRABDTAVYYCARSGSHYFGHMFPAVMGQG 114
DB      61 NPSVKRITITSRDSKNTFTYLNQNSLRABDTAVYYCARSGSHYFGHMFPAVMGQG 114

RESULT 20
US-09-109-207C-22
```

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/ Sequence 22, Application US/09109207C
/ Patent No. 6172213
/ GENERAL INFORMATION:
/ APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
/ TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
/ FILE REFERENCE: P1123R1
/ CURRENT APPLICATION NUMBER: US/09/109,207C
/ CURRENT FILING DATE: 1998-06-30
/ PRIOR APPLICATION NUMBER: US 60/051,554
/ PRIOR FILING DATE: 1997-07-03
/ NUMBER OF SEQ ID NOS: 44
/ SEQ ID NO 22
/ LENGTH: 248
/ TYPE: PRT
/ ORGANISM: Artificial
/ NAME/KEY: Artificial
/ LOCATION: 1-248
/ OTHER INFORMATION: sfv sequence derived from MAE11
US-09-109-207C-22
```

```
Query Match 100.0%; Score 625; DB 3; Length 248;
Best Local Similarity 100.0%; Pred. No. 1.1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 EVOLVESGGGLVOPGSLRLSCAIVSGYSITSGYSWMNIRQAPGKLEWVASITYDGSINY 60
DB 1 EVOLVESGGGLVOPGSLRLSCAIVSGYSITSGYSWMNIRQAPGKLEWVASITYDGSINY 60
QY 61 NPSYKGRITTSRSDSKNTFYLQWNSLRAEDTAVYYCARGSHYFGHMFPAWVGQ 114
DB 61 NPSYKGRITTSRSDSKNTFYLQWNSLRAEDTAVYYCARGSHYFGHMFPAWVGQ 114
```

```
RESULT 21
US-09-296-005-22
/ Sequence 22, Application US/09296005
/ Patent No. 6290957
/ GENERAL INFORMATION:
/ APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
/ TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
/ FILE REFERENCE: P1123C1X
/ CURRENT APPLICATION NUMBER: US/09/296,005
/ CURRENT FILING DATE: 1999-04-21
/ EARLIER APPLICATION NUMBER: US 08/887,352
/ EARLIER FILING DATE: 1997-07-02
/ NUMBER OF SEQ ID NOS: 26
/ SEQ ID NO 22
/ LENGTH: 248
/ TYPE: PRT
/ ORGANISM: Artificial
/ NAME/KEY: Artificial
/ LOCATION: 1-248
/ OTHER INFORMATION: sfv sequence derived from MAE11
US-09-296-005-22
```

```
Query Match 100.0%; Score 625; DB 3; Length 248;
Best Local Similarity 100.0%; Pred. No. 1.1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 EVOLVESGGGLVOPGSLRLSCAIVSGYSITSGYSWMNIRQAPGKLEWVASITYDGSINY 60
DB 1 EVOLVESGGGLVOPGSLRLSCAIVSGYSITSGYSWMNIRQAPGKLEWVASITYDGSINY 60
QY 61 NPSYKGRITTSRSDSKNTFYLQWNSLRAEDTAVYYCARGSHYFGHMFPAWVGQ 114
DB 61 NPSYKGRITTSRSDSKNTFYLQWNSLRAEDTAVYYCARGSHYFGHMFPAWVGQ 114
```

```
RESULT 22
US-09-920-171-22
/ Sequence 22, Application US/09920171
```

```
/ Patent No. 6682735
/ GENERAL INFORMATION:
/ APPLICANT: Lowman, Henry B.
/ APPLICANT: Presta, Leonard G.
/ APPLICANT: Jardieu, Paula M.
/ APPLICANT: Lowe, John
/ TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
/ FILE REFERENCE: P1123C2US
/ CURRENT APPLICATION NUMBER: US/09/920,171
/ CURRENT FILING DATE: 2001-08-01
/ PRIOR APPLICATION NUMBER: US 08/887,352
/ PRIOR FILING DATE: 1997-07-02
/ PRIOR APPLICATION NUMBER: US 09/296,005
/ PRIOR FILING DATE: 1999-04-21
/ NUMBER OF SEQ ID NOS: 44
/ SEQ ID NO 22
/ LENGTH: 248
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ NAME/KEY: Artificial Sequence
/ LOCATION: 1-248
/ OTHER INFORMATION: sfv sequence derived from MAE11
US-09-920-171-22
```

```
Query Match 100.0%; Score 625; DB 4; Length 248;
Best Local Similarity 100.0%; Pred. No. 1.1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 EVOLVESGGGLVOPGSLRLSCAIVSGYSITSGYSWMNIRQAPGKLEWVASITYDGSINY 60
DB 1 EVOLVESGGGLVOPGSLRLSCAIVSGYSITSGYSWMNIRQAPGKLEWVASITYDGSINY 60
QY 61 NPSYKGRITTSRSDSKNTFYLQWNSLRAEDTAVYYCARGSHYFGHMFPAWVGQ 114
DB 61 NPSYKGRITTSRSDSKNTFYLQWNSLRAEDTAVYYCARGSHYFGHMFPAWVGQ 114
```

```
RESULT 23
US-09-716-028-22
/ Sequence 22, Application US/09716028
/ Patent No. 6723833
/ GENERAL INFORMATION:
/ APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
/ TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
/ FILE REFERENCE: P1123R1
/ CURRENT APPLICATION NUMBER: US/09/716,028
/ CURRENT FILING DATE: 2000-11-17
/ PRIOR APPLICATION NUMBER: US 09/109,207
/ PRIOR FILING DATE: 1998-06-30
/ PRIOR APPLICATION NUMBER: US 60/051,554
/ PRIOR FILING DATE: 1997-07-03
/ NUMBER OF SEQ ID NOS: 44
/ SEQ ID NO 22
/ LENGTH: 248
/ TYPE: PRT
/ ORGANISM: Artificial
/ NAME/KEY: Artificial
/ LOCATION: 1-248
/ OTHER INFORMATION: sfv sequence derived from MAE11
US-09-716-028-22
```

```
Query Match 100.0%; Score 625; DB 4; Length 248;
Best Local Similarity 100.0%; Pred. No. 1.1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 EVOLVESGGGLVOPGSLRLSCAIVSGYSITSGYSWMNIRQAPGKLEWVASITYDGSINY 60
DB 1 EVOLVESGGGLVOPGSLRLSCAIVSGYSITSGYSWMNIRQAPGKLEWVASITYDGSINY 60
QY 61 NPSYKGRITTSRSDSKNTFYLQWNSLRAEDTAVYYCARGSHYFGHMFPAWVGQ 114
DB 61 NPSYKGRITTSRSDSKNTFYLQWNSLRAEDTAVYYCARGSHYFGHMFPAWVGQ 114
```

RESULT 24
US-10-113-996-22
; Sequence 22, Application US/10113996
; Patent No. 6761889
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies
; FILE REFERENCE: P1123CJUS
; CURRENT APPLICATION NUMBER: US/10/113,996
; CURRENT FILING DATE: 2002-04-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: US 09/920,171
; PRIOR FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 22
; LENGTH: 248
; TYPE: PR1
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: sfv sequence derived from MAE11
US-10-113-996-22

Query Match 100.0%; Score 625; DB 4; Length 248;
Best Local Similarity 100.0%; Pred. No. 1.1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVLVESGGGLVOPGSLRLSCAVSGYSGYSNMWIRQAPGKLEWVASITDGSSTNY 60
DB 1 EVLVESGGGLVOPGSLRLSCAVSGYSGYSNMWIRQAPGKLEWVASITDGSSTNY 60

QY 61 NPSVKGRITISRDSKNTFTYQNMNSLRADTAAYYCARSGSHYGHMFAVMGQG 114
DB 61 NPSVKGRITISRDSKNTFTYQNMNSLRADTAAYYCARSGSHYGHMFAVMGQG 114

RESULT 25
US-08-887-352B-14
; Sequence 14, Application US/08887352B
; Patent No. 5994511
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatIn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/887,352B
; FILING DATE: 03-Jul-1997
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Svoboda, Craig G.
; REGISTRATION NUMBER: 39,044
; REFERENCE/DOCKET NUMBER: P1123
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-1489

TELEFAX: 650/952-9881
; INFORMATION FOR SEQ ID NO: 14:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 451 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
US-08-887-352B-14

Query Match 100.0%; Score 625; DB 2; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVLVESGGGLVOPGSLRLSCAVSGYSGYSNMWIRQAPGKLEWVASITDGSSTNY 60
DB 1 EVLVESGGGLVOPGSLRLSCAVSGYSGYSNMWIRQAPGKLEWVASITDGSSTNY 60

QY 61 NPSVKGRITISRDSKNTFTYQNMNSLRADTAAYYCARSGSHYGHMFAVMGQG 114
DB 61 NPSVKGRITISRDSKNTFTYQNMNSLRADTAAYYCARSGSHYGHMFAVMGQG 114

RESULT 26
US-08-887-352B-16
; Sequence 16, Application US/08887352B
; Patent No. 5994511
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatIn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/887,352B
; FILING DATE: 03-Jul-1997
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Svoboda, Craig G.
; REGISTRATION NUMBER: 39,044
; REFERENCE/DOCKET NUMBER: P1123
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-1489
; TELEFAX: 650/952-9881
; INFORMATION FOR SEQ ID NO: 16:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 451 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
US-08-887-352B-16

Query Match 100.0%; Score 625; DB 2; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVLVESGGGLVOPGSLRLSCAVSGYSGYSNMWIRQAPGKLEWVASITDGSSTNY 60
DB 1 EVLVESGGGLVOPGSLRLSCAVSGYSGYSNMWIRQAPGKLEWVASITDGSSTNY 60

QY 61 NPSVKGRITISRDSKNTFTYQNMNSLRADTAAYYCARSGSHYGHMFAVMGQG 114
DB 61 NPSVKGRITISRDSKNTFTYQNMNSLRADTAAYYCARSGSHYGHMFAVMGQG 114

RESULT 27
US-08-466-151-65
Sequence 65, Application US/08466151
Patent No. 6037453
GENERAL INFORMATION:
APPLICANT: Jardieu, Paula M.
APPLICANT: Presta, Leonard G.
TITLE OF INVENTION: Immunoglobulin Variants
NUMBER OF SEQUENCES: 65
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 MB floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatIn (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/466,151
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/466163
FILING DATE: 06-Jun-1995
APPLICATION NUMBER: 08/405617
FILING DATE: 15-MAR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/185899
FILING DATE: 26-JAN-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/879495
FILING DATE: 07-MAY-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/744768
FILING DATE: 14-AUG-1991
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P0718P2C1D1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 65:
SEQUENCE CHARACTERISTICS:
LENGTH: 451 amino acids
TYPE: Amino acid
TOPOLOGY: Linear
US-08-466-151-65
Query Match 100.0%; Score 625; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 2,2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVQLVESGGGLVPGGSLRLSCAVGSYISGYSWMNIRQAPGKLEWVASITVDGSTNY 60
DB 1 EVQLVESGGGLVPGGSLRLSCAVGSYISGYSWMNIRQAPGKLEWVASITVDGSTNY 60
QY 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDAVYYCARGSHYFGHMFAVWGOG 114
DB 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDAVYYCARGSHYFGHMFAVWGOG 114
RESULT 28
US-09-109-207C-14
Sequence 14, Application US/09109207C
Patent No. 6172213
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide

FILE REFERENCE: P1123R1
CURRENT APPLICATION NUMBER: US/09/109,207C
CURRENT FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 14
LENGTH: 451
TYPE: PRT
ORGANISM: Artificial
FEATURE:
NAME/KEY: Artificial
LOCATION: 1-451
OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-109-207C-14
Query Match 100.0%; Score 625; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 2,2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVQLVESGGGLVPGGSLRLSCAVGSYISGYSWMNIRQAPGKLEWVASITVDGSTNY 60
DB 1 EVQLVESGGGLVPGGSLRLSCAVGSYISGYSWMNIRQAPGKLEWVASITVDGSTNY 60
QY 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDAVYYCARGSHYFGHMFAVWGOG 114
DB 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDAVYYCARGSHYFGHMFAVWGOG 114
RESULT 29
US-09-109-207C-16
Sequence 16, Application US/09109207C
Patent No. 6172213
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
FILE REFERENCE: P1123R1
CURRENT APPLICATION NUMBER: US/09/109,207C
CURRENT FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 16
LENGTH: 451
TYPE: PRT
ORGANISM: Artificial
FEATURE:
NAME/KEY: Artificial
LOCATION: 1-451
OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-109-207C-16
Query Match 100.0%; Score 625; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 2,2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVQLVESGGGLVPGGSLRLSCAVGSYISGYSWMNIRQAPGKLEWVASITVDGSTNY 60
DB 1 EVQLVESGGGLVPGGSLRLSCAVGSYISGYSWMNIRQAPGKLEWVASITVDGSTNY 60
QY 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDAVYYCARGSHYFGHMFAVWGOG 114
DB 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDAVYYCARGSHYFGHMFAVWGOG 114
RESULT 30
US-09-296-005-14
Sequence 14, Application US/09296005
Patent No. 6290957
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123C1X

; CURRENT APPLICATION NUMBER: US/09/296,005
; CURRENT FILING DATE: 1999-04-21
; EARLIER APPLICATION NUMBER: US 08/887,352
; EARLIER FILING DATE: 1997-07-02
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 14
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-451
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-296-005-14

Query Match 100.0%; Score 625; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
DB 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60

QY 61 NPSVKGRIITSRDSSKNTFTLQWNSLRADPTAVYYCARSGSHYFGHMFPAWVGQ 114
DB 61 NPSVKGRIITSRDSSKNTFTLQWNSLRADPTAVYYCARSGSHYFGHMFPAWVGQ 114

RESULT 31
US-09-296-005-16
; Sequence 16, Application US/09296005
; Patent No. 6290957
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-1gE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123C1r
; CURRENT APPLICATION NUMBER: US/09/296,005
; CURRENT FILING DATE: 1999-04-21
; EARLIER APPLICATION NUMBER: US 08/887,352
; EARLIER FILING DATE: 1997-07-02
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 16
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-451
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-296-005-16

Query Match 100.0%; Score 625; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
DB 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60

QY 61 NPSVKGRIITSRDSSKNTFTLQWNSLRADPTAVYYCARSGSHYFGHMFPAWVGQ 114
DB 61 NPSVKGRIITSRDSSKNTFTLQWNSLRADPTAVYYCARSGSHYFGHMFPAWVGQ 114

RESULT 32
US-09-920-171-14
; Sequence 14, Application US/09920171
; Patent No. 6682735
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John

; TITLE OF INVENTION: Improved Anti-1gE Antibodies (as amended)
; FILE REFERENCE: P1123C2US
; CURRENT APPLICATION NUMBER: US/09/920,171
; CURRENT FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 14
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-920-171-14

Query Match 100.0%; Score 625; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
DB 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60

QY 61 NPSVKGRIITSRDSSKNTFTLQWNSLRADPTAVYYCARSGSHYFGHMFPAWVGQ 114
DB 61 NPSVKGRIITSRDSSKNTFTLQWNSLRADPTAVYYCARSGSHYFGHMFPAWVGQ 114

RESULT 33
US-09-920-171-16
; Sequence 16, Application US/09920171
; Patent No. 6682735
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-1gE Antibodies (as amended)
; FILE REFERENCE: P1123C2US
; CURRENT APPLICATION NUMBER: US/09/920,171
; CURRENT FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 16
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-920-171-16

Query Match 100.0%; Score 625; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
DB 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60

QY 61 NPSVKGRIITSRDSSKNTFTLQWNSLRADPTAVYYCARSGSHYFGHMFPAWVGQ 114
DB 61 NPSVKGRIITSRDSSKNTFTLQWNSLRADPTAVYYCARSGSHYFGHMFPAWVGQ 114

RESULT 34
US-09-716-028-14
; Sequence 14, Application US/09716028
; Patent No. 6723833

```

; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-1gE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/716,028
; CURRENT FILING DATE: 2000-11-17
; PRIOR APPLICATION NUMBER: US 09/109,207
; PRIOR FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 14
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-451
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-716-028-14
```

```

Query Match          100.0%; Score 625; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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```

QY 1 EVOLVESGGGLVPGGSLRLSCAVGYSTISGYSWMNIRQAPGKLEWVASITVDGSTNY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAVGYSTISGYSWMNIRQAPGKLEWVASITVDGSTNY 60
QY 61 NPSYKGRITTSRDSSKNTFYIQMNSLRAPDTAVYYCARGSHYFGHMFAVWGQG 114
DB 61 NPSYKGRITTSRDSSKNTFYIQMNSLRAPDTAVYYCARGSHYFGHMFAVWGQG 114
```

RESULT 35

```

US-09-716-028-16
; Sequence 16, Application US/09716028
; Patent No. 6723833
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-1gE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/716,028
; CURRENT FILING DATE: 2000-11-17
; PRIOR APPLICATION NUMBER: US 09/109,207
; PRIOR FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 16
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-451
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-716-028-16
```

```

Query Match          100.0%; Score 625; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```

QY 1 EVOLVESGGGLVPGGSLRLSCAVGYSTISGYSWMNIRQAPGKLEWVASITVDGSTNY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAVGYSTISGYSWMNIRQAPGKLEWVASITVDGSTNY 60
QY 61 NPSYKGRITTSRDSSKNTFYIQMNSLRAPDTAVYYCARGSHYFGHMFAVWGQG 114
DB 61 NPSYKGRITTSRDSSKNTFYIQMNSLRAPDTAVYYCARGSHYFGHMFAVWGQG 114
```

RESULT 36

```

US-10-113-996-14
; Sequence 14, Application US/10113996
; Patent No. 6761889
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-1gE Antibodies
; FILE REFERENCE: P1123C3US
; CURRENT APPLICATION NUMBER: US/10/113,996
; CURRENT FILING DATE: 2002-04-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: US 09/920,171
; PRIOR FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 14
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-10-113-996-14
```

```

Query Match          100.0%; Score 625; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```

QY 1 EVOLVESGGGLVPGGSLRLSCAVGYSTISGYSWMNIRQAPGKLEWVASITVDGSTNY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAVGYSTISGYSWMNIRQAPGKLEWVASITVDGSTNY 60
QY 61 NPSYKGRITTSRDSSKNTFYIQMNSLRAPDTAVYYCARGSHYFGHMFAVWGQG 114
DB 61 NPSYKGRITTSRDSSKNTFYIQMNSLRAPDTAVYYCARGSHYFGHMFAVWGQG 114
```

RESULT 37

```

US-10-113-996-16
; Sequence 16, Application US/10113996
; Patent No. 6761889
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-1gE Antibodies
; FILE REFERENCE: P1123C3US
; CURRENT APPLICATION NUMBER: US/10/113,996
; CURRENT FILING DATE: 2002-04-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: US 09/920,171
; PRIOR FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 16
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-10-113-996-16
```

```

Query Match          100.0%; Score 625; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```

QY 1 EVOLVESGGGLVPGGSLRLSCAVGYSTISGYSWMNIRQAPGKLEWVASITVDGSTNY 60
```

Db	1	EVQLVESGGGLVQPGGSLRLSCA	VS	GIS	ITSGYS	MMWIRQAPGKGL	EWASIT	YD	STNY	60	
Qy	61	NPSVKGRITIS	RDDSKNTFY	LQ	MNSLR	AEDTAV	YVC	ARGSHY	FG	MHFAVWGQ	114
Db	61	NPSVKGRITIS	RDDSKNTFY	LQ	MNSLR	AEDTAV	YVC	ARGSHY	FG	MHFAVWGQ	114

Search completed: June 3, 2005, 12:48:20
Job time : 23 secs

SQ Sequence 114 AA;
 Query Match 100.0%; Score 625; DB 2; Length 114;
 Best Local Similarity 100.0%; Pred. No. 6.2e-50;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKGLFWASITPDSTNY 60
 DB 1 EVLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKGLFWASITPDSTNY 60
 QY 61 NPSVKGRTITSRDSSKNTFTYQNNSLRAEDTAVYYCARSGHYFGHMFPAWVGQ 114
 DB 61 NPSVKGRTITSRDSSKNTFTYQNNSLRAEDTAVYYCARSGHYFGHMFPAWVGQ 114

RESULT 2
 AAB76946
 ID AAB76946 standard; protein; 114 AA.
 AC AAB76946;
 DT 17-APR-2001 (first entry)
 DE Variable heavy chain sequence of e25, e26 and e426 SEQ ID 12.
 XX Antibody; antiaesthetic; antiallergic; ophthalmological; dermatological;
 KM antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis;
 KM conjunctivitis; eczema; urticaria; food allergy.
 OS Synthetic.
 XX US6172213-B1.
 PN 09-JAN-2001.
 PD 30-JUN-1998; 98US-00109207.
 PF 02-JUL-1997; 97US-0051554P.
 PR (GETH) GENENTECH INC.
 PA Lowman HB, Presta LG, Jardieu PM, Lowe J;
 PI WPI; 2001-122353/13.
 DR New nucleic acid encoding anti-immunoglobulin E antibody with improved
 PT properties, produced by substituting aspartyl residues in unimproved
 PT immunoglobulin E prone to isomerization by other residues by affinity
 PT maturation with phage display.
 XX Disclosure; Fig 2; 87pp; English.
 XX This invention relates to a nucleotide sequence encoding an antibody with
 CC improved anti-IgE antibody activity. The antibody has improved action due
 CC to a process comprising, a) identifying aspartyl residues prone to
 CC isomerization in unimproved anti-IgE (immunoglobulin E) antibody; b)
 CC substituting alternative residues to create candidate molecules, and c)
 CC selecting those candidate molecules which display affinity against the
 CC target molecule. Use of the antibody results in antiaesthetic;
 CC antiallergic; ophthalmological; dermatological and antiinflammatory
 CC activity. The antibodies are useful for treating IgE-mediated disorders
 CC such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
 CC food allergies. The mutant antibodies produced by the above mentioned
 CC nucleic acids may also be used as affinity purification agents and in
 CC diagnostic assays for detecting the expression of an antigen of interest
 CC in specific cell, tissues or serum. Amino acid sequences AAB76936-
 CC AAB76960 represent fragments of anti-IgE antibodies of the invention.
 CC Polynucleotide sequence AAB69253 represents an expression plasmid used in
 CC the course of the invention, and oligonucleotides AAB69254 - AAB69271 are
 CC used in the generation of affinity improved anti-IgE antibodies
 SQ Sequence 114 AA;

Query Match 100.0%; Score 625; DB 4; Length 114;
 Best Local Similarity 100.0%; Pred. No. 6.2e-50;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKGLFWASITPDSTNY 60
 DB 1 EVLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKGLFWASITPDSTNY 60
 QY 61 NPSVKGRTITSRDSSKNTFTYQNNSLRAEDTAVYYCARSGHYFGHMFPAWVGQ 114
 DB 61 NPSVKGRTITSRDSSKNTFTYQNNSLRAEDTAVYYCARSGHYFGHMFPAWVGQ 114

RESULT 3
 ADN07033
 ID ADN07033 standard; protein; 114 AA.
 AC ADN07033;
 DT 01-JUL-2004 (first entry)
 DE Anti-IgE antibody e25, e26 and e426 variable heavy chain domain (VH).
 XX Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder;
 KM therapy; atopic allergy; anaphylactic hypersensitivity; asthma;
 KM allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy;
 KM variable heavy chain domain; VH.
 OS Unidentified.
 XX US6723833-B1.
 PN 20-APR-2004.
 PD 17-NOV-2000; 2000US-00716028.
 PF 02-JUL-1997; 97US-0051554P.
 PR 30-JUN-1998; 98US-00109207.
 XX (GETH) GENENTECH INC.
 PA Lowman HB, Presta LG, Jardieu PM, Lowe J;
 PI WPI; 2004-326922/30.
 DR New composition of an improved anti-IgE antibody or IgE binding fragment,
 PT useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma,
 PT conjunctivitis, eczema, urticaria or food allergies.
 XX Disclosure; SEQ ID NO 12; 89pp; English.
 XX The invention relates to therapeutic compositions comprising anti-IgE
 CC antibody or IgE binding fragment in combination with an adjunct
 CC immunosuppressive agent. The composition is useful for treating IgE-
 CC mediated disorders. The disorders include atopic allergy associated with
 CC anaphylactic hypersensitivity and asthma, allergic rhinitis and
 CC conjunctivitis, eczema, urticaria and food allergies. The present
 CC sequence is an anti-IgE antibody variable heavy chain domain (VH).
 SQ Sequence 114 AA;
 Query Match 100.0%; Score 625; DB 8; Length 114;
 Best Local Similarity 100.0%; Pred. No. 6.2e-50;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVPGGSLRLSCA VSGYSITSGYSMMNIRQAPGKLEWVASITTDGSTNY 60
 DB 1 EVOLVESGGGLVPGGSLRLSCA VSGYSITSGYSMMNIRQAPGKLEWVASITTDGSTNY 60
 QY 61 NPSYKGRITTSRDDSKNTFYLOMNSLRADTA VYYCARGSHYFGHMFPAWVGQG 114
 DB 61 NPSYKGRITTSRDDSKNTFYLOMNSLRADTA VYYCARGSHYFGHMFPAWVGQG 114

RESULT 4
 AAM95665
 ID AAM95665 standard; protein; 229 AA.
 XX
 AC AAM95665;
 XX
 DT 08-JUN-1999 (first entry)
 XX

DE Mus musculus anti-IGe e26 variable heavy chain Fab fragment.

XX Variable heavy chain; Fab fragment; antibody; anti-IGe; reduction;
 KM histamine; production; hypersensitivity; allergen; anaphylaxis;
 KM atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay fever;
 KM eczema; anaphylactic shock; urticaria; IGE; prevention.
 XX
 OS Mus musculus.
 XX
 PN WO9901556-A2.
 XX
 PD 14-JAN-1999.
 XX
 PF 30-JUN-1998; 98WO-US013410.
 XX
 PR 02-JUL-1997; 97US-00887352.
 XX

PA (GETH) GENENTECH INC.
 XX
 PI Lowman HB, Presta LG, Jardieu PM, Lowe J;
 XX
 DR WPI; 1999-106057/09.
 XX

PT Improving affinity of polypeptides, particularly anti-IGe antibodies - by
 PT identifying aspartyl residues which undergo isomerisation and
 PT substituting alternative residues and screening for affinity against the
 PT target.
 XX

PS Disclosure; Page 100-101; 129pp; English.
 XX

CC The sequence is that of the variable heavy Fab fragment of e26. It was
 CC used as part of a method to improve the affinity of anti-IGe antibodies
 CC such as e26 and e27. The e26 and e27 antibodies can be used for reducing
 CC or preventing IGE mediated production of histamine in a mammal. They can
 CC be used for treating a disorder mediated by IGE such as hypersensitivity,
 CC atopic allergy, asthma, allergic rhinitis, conjunctivitis, hay fever,
 CC eczema, anaphylactic shock and urticaria. The antibodies can also be used
 CC for affinity purification, detection and diagnosis
 XX

SO Sequence 229 AA;

Query Match 100.0%; Score 625; DB 2; Length 229;
 Best Local Similarity 100.0%; Pred. No. 1.4e-49;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVPGGSLRLSCA VSGYSITSGYSMMNIRQAPGKLEWVASITTDGSTNY 60
 DB 1 EVOLVESGGGLVPGGSLRLSCA VSGYSITSGYSMMNIRQAPGKLEWVASITTDGSTNY 60
 QY 61 NPSYKGRITTSRDDSKNTFYLOMNSLRADTA VYYCARGSHYFGHMFPAWVGQG 114
 DB 61 NPSYKGRITTSRDDSKNTFYLOMNSLRADTA VYYCARGSHYFGHMFPAWVGQG 114

RESULT 5
 AAB76954

ID AAB76954 standard; protein; 229 AA.
 XX
 AC AAB76954;
 XX
 DT 17-APR-2001 (first entry)
 XX
 DE Variable heavy chain Fab fragment of e26 SEQ ID 20.
 XX

KM Antibody; antiaesthetic; antiallergic; ophthalmological; dermatological;
 KM antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis;
 KM conjunctivitis; eczema; urticaria; food allergy.
 XX
 OS Synthetic.
 XX
 PN US6172213-B1.
 XX
 PD 09-JAN-2001.
 XX
 PF 30-JUN-1998; 98US-00109207.
 XX
 PR 02-JUL-1997; 97US-0051554P.
 XX

PA (GETH) GENENTECH INC.
 XX
 PI Lowman HB, Presta LG, Jardieu PM, Lowe J;
 XX
 DR WPI; 2001-122353/13.
 XX

PT New nucleic acid encoding anti-immunoglobulin E antibody with improved
 PT properties, produced by substituting aspartyl residues in unimproved
 PT immunoglobulin E prone to isomerization by other residues by affinity
 PT maturation with phage display.
 XX
 PS Disclosure; Fig 13; 87pp; English.
 XX

CC This invention relates to a nucleotide sequence encoding an antibody with
 CC improved anti-IGe antibody activity. The antibody has improved action due
 CC to a process comprising, a) identifying aspartyl residues prone to
 CC isomerisation in unimproved anti-IGe (immunoglobulin E) antibody; b)
 CC substituting alternative residues to create candidate molecules, and c)
 CC selecting those candidate molecules which display affinity against the
 CC target molecule. Use of the antibody results in antiaesthetic;
 CC antiallergic; ophthalmological; dermatological and antiinflammatory
 CC activity. The antibodies are useful for treating IGE-mediated disorders
 CC such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
 CC food allergies. The mutant antibodies produced by the above mentioned
 CC nucleic acids may also be used as affinity purification agents and in
 CC diagnostic assays for detecting the expression of an antigen of interest
 CC in specific cell, tissues or serum. Amino acid sequences AAB76936-
 CC AAB76960 represent fragments of anti-IGe antibodies of the invention.
 CC Polynucleotide sequence AAF69253 represents an expression plasmid used in
 CC the course of the invention, and oligonucleotides AAF69254 - AAF69271 are
 CC used in the generation of affinity improved anti-IGe antibodies
 XX

SO Sequence 229 AA;

Query Match 100.0%; Score 625; DB 4; Length 229;
 Best Local Similarity 100.0%; Pred. No. 1.4e-49;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVPGGSLRLSCA VSGYSITSGYSMMNIRQAPGKLEWVASITTDGSTNY 60
 DB 1 EVOLVESGGGLVPGGSLRLSCA VSGYSITSGYSMMNIRQAPGKLEWVASITTDGSTNY 60
 QY 61 NPSYKGRITTSRDDSKNTFYLOMNSLRADTA VYYCARGSHYFGHMFPAWVGQG 114
 DB 61 NPSYKGRITTSRDDSKNTFYLOMNSLRADTA VYYCARGSHYFGHMFPAWVGQG 114

RESULT 6
 ADN07041
 ID ADN07041 standard; protein; 229 AA.
 XX

AC ADN07041;
XX
XX 01-JUL-2004 (first entry)
XX
XX
DE Anti-IgE antibody e26 variable heavy (VH) Fab fragment.
XX
XX
XX Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder;
XX therapy; atopic allergy; anaphylactic hypersensitivity; asthma;
XX allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy;
XX variable heavy chain; VH.
XX
XX Unidentified.
XX
XX US6723833-B1.
XX
XX 20-APR-2004.
XX
XX 17-NOV-2000; 2000US-00716028.
XX
XX 02-JUL-1997; 97US-0051554P.
XX PR 30-JUN-1998; 98US-00109207.
XX
XX (GETH) GENENTECH INC.
XX
XX Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX WPI, 2004-326922/30.
XX
XX New composition of an improved anti-IgE antibody or IgE binding fragment,
XX useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma,
XX conjunctivitis, eczema, urticaria or food allergies.
XX
XX Claim 7; SEQ ID NO 20; 89pp; English.
XX
XX The invention relates to therapeutic compositions comprising anti-IgE
XX antibody or IgE binding fragment in combination with an adjunct
XX immunosuppressive agent. The composition is useful for treating IgE-
XX mediated disorders. The disorders include atopic allergy associated with
XX anaphylactic hypersensitivity and asthma, allergic rhinitis and
XX conjunctivitis, eczema, urticaria and food allergies. The present
XX sequence is an anti-IgE antibody variable heavy chain (VH) Fab fragment.
XX
XX Sequence 229 AA;
SQ
Query Match 100.0%; Score 625; DB 8; Length 229;
Best Local Similarity 100.0%; Pred. No. 1.4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVOLVSGGGGLVOPGSLRLSCAVSGYSITSGYSNMNIROAPGKGLEWVASITDGSSTNY 60
DB 1 EVOLVSGGGGLVOPGSLRLSCAVSGYSITSGYSNMNIROAPGKGLEWVASITDGSSTNY 60
QY 61 NPSVKGRITTSRDSSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114
DB 61 NPSVKGRITTSRDSSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114
RESULT 7
ADN07067
ID ADN07067 standard; protein; 229 AA.
XX
XX ADN07067;
XX
XX 01-JUL-2004 (first entry)
XX
XX F(ab) -phage p426 DNA encoded anti-IgE antibody e5 heavy chain.
XX
XX Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder;
XX therapy; atopic allergy; anaphylactic hypersensitivity; asthma;
XX allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy; p426.
XX
XX Unidentified.
XX

PN US6723833-B1.
XX
XX 20-APR-2004.
XX
XX
XX 17-NOV-2000; 2000US-00716028.
XX
XX
XX 02-JUL-1997; 97US-0051554P.
XX PR 30-JUN-1998; 98US-00109207.
XX
XX (GETH) GENENTECH INC.
XX
XX Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX WPI, 2004-326922/30.
XX DR N-PSDB; ADN07022.
XX
XX New composition of an improved anti-IgE antibody or IgE binding fragment,
XX useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma,
XX conjunctivitis, eczema, urticaria or food allergies.
XX
XX Example 4; Fig 10B-10C; 89pp; English.
XX
XX The invention relates to therapeutic compositions comprising anti-IgE
XX antibody or IgE binding fragment in combination with an adjunct
XX immunosuppressive agent. The composition is useful for treating IgE-
XX mediated disorders. The disorders include atopic allergy associated with
XX anaphylactic hypersensitivity and asthma, allergic rhinitis and
XX conjunctivitis, eczema, urticaria and food allergies. The present
XX sequence is a F(ab)-phage p426 DNA encoded anti-IgE antibody e5 heavy
XX chain. This sequence is used in the exemplification of the invention.
XX
XX Sequence 229 AA;
SQ
Query Match 100.0%; Score 625; DB 8; Length 229;
Best Local Similarity 100.0%; Pred. No. 1.4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVOLVSGGGGLVOPGSLRLSCAVSGYSITSGYSNMNIROAPGKGLEWVASITDGSSTNY 60
DB 1 EVOLVSGGGGLVOPGSLRLSCAVSGYSITSGYSNMNIROAPGKGLEWVASITDGSSTNY 60
QY 61 NPSVKGRITTSRDSSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114
DB 61 NPSVKGRITTSRDSSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114
RESULT 8
AAW95670
ID AAW95670 standard; protein; 233 AA.
XX
XX AAW95670;
XX
XX 08-JUN-1999 (first entry)
XX
XX Mus musculus anti-IgE e26 variable heavy chain F(ab)'2 fragment.
XX
XX Variable heavy chain; IgE; antibody; anti-IgE; reduction; prevention;
XX histamine; production; hypersensitivity; allergen; anaphylaxis;
XX atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay fever;
XX eczema; anaphylactic shock; urticaria; F(ab)'2 fragment.
XX
XX Mus musculus.
XX OS
XX WO9901556-A2.
XX PN
XX 14-JAN-1999.
XX PD
XX 30-JUN-1998; 98WO-US013410.
XX PF
XX 02-JUL-1997; 97US-00887352.
XX PR
XX (GETH) GENENTECH INC.
XX PA

PI Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX WPI; 1999-106057/09.
XX
PT Improving affinity of polypeptides, particularly anti-IgE antibodies - by
PT identifying aspartyl residues which undergo isomerization and
PT substituting alternative residues and screening for affinity against the
PT target.
PS Disclosure; Page 105; 129pp; English.
XX
XX The sequence is that of the variable heavy chain F(ab)'2 fragment of e26.
CC It was used as part of a method to improve the affinity of anti-IgE
CC antibodies such as e26 and e27. The e26 and e27 antibodies can be used
CC for reducing or preventing IgE mediated production of histamine in a
CC mammal. They can be used for treating a disorder mediated by IgE such as
CC hypersensitivity, atopic allergy, asthma, allergic rhinitis,
CC conjunctivitis, hay fever, eczema, anaphylactic shock and urticaria. The
CC antibodies can also be used for affinity purification, detection and
CC diagnosis
XX
SQ Sequence 233 AA:
Query Match 100.0%; Score 625; DB 2; Length 233;
Best Local Similarity 100.0%; Pred. No. 1.4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
QY 61 NPSYKGRITTSRSDSKNTFTYLNQNSLRAPDTAVYYCARGSHYFGMHFAVWGQG 114
DB 61 NPSYKGRITTSRSDSKNTFTYLNQNSLRAPDTAVYYCARGSHYFGMHFAVWGQG 114
DE Variable heavy chain F(ab)'2 fragment of e26 SEQ ID 25.
XX
XX Antibody; antiaesthetic; antiallergic; ophthalmological; dermatological;
XX antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis;
XX conjunctivitis; eczema; urticaria; food allergy.
XX
XX Synthetic.
OS
XX US6172213-B1.
XX
XX 09-JAN-2001.
XX
XX 30-JUN-1998; 98US-00109207.
XX
XX 02-JUL-1997; 97US-0051554P.
XX
XX (GETH) GENENTECH INC.
XX
XX Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX WPI; 2001-122353/13.
XX
XX New nucleic acid encoding anti-immunoglobulin E antibody with improved
XX properties, produced by substituting aspartyl residues in unimproved
XX immunoglobulin E prone to isomerization by other residues by affinity
XX maturation with phage display.
XX
XX Disclosure; Fig 15; 87pp; English.
XX

CC This invention relates to a nucleotide sequence encoding an antibody with
CC improved anti-IgE antibody activity. The antibody has improved action due
CC to a process comprising, a) identifying aspartyl residues prone to
CC isomerization in unimproved anti-IgE (immunoglobulin E) antibody; b)
CC substituting alternative residues to create candidate molecules; and c)
CC selecting those candidate molecules which display affinity against the
CC target molecule. Use of the antibody results in antiaesthetic;
CC antiallergic; ophthalmological; dermatological and antiinflammatory
CC activity. The antibodies are useful for treating IgE-mediated disorders
CC such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
CC food allergies. The mutant antibodies produced by the above mentioned
CC nucleic acids may also be used as affinity purification agents and in
CC diagnostic assays for detecting the expression of an antigen of interest
CC in specific cell, tissues or serum. Amino acid sequences AAB76936-
CC AAB76960 represent fragments of anti-IgE antibodies of the invention.
CC Polynucleotide sequence AAB69253 represents an expression plasmid used in
CC the course of the invention, and oligonucleotides AAB69254 - AAB69271 are
CC used in the generation of affinity improved anti-IgE antibodies
XX
SQ Sequence 233 AA:
Query Match 100.0%; Score 625; DB 4; Length 233;
Best Local Similarity 100.0%; Pred. No. 1.4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASITTDGSTNY 60
QY 61 NPSYKGRITTSRSDSKNTFTYLNQNSLRAPDTAVYYCARGSHYFGMHFAVWGQG 114
DB 61 NPSYKGRITTSRSDSKNTFTYLNQNSLRAPDTAVYYCARGSHYFGMHFAVWGQG 114
DE Anti-IgE antibody e26 variable heavy (VH) F(ab)'2 fragment.
XX
XX Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder;
XX therapy; atopic allergy; anaphylactic hypersensitivity; asthma;
XX allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy;
XX variable heavy chain; VH.
XX
XX Unidentified.
OS
XX US6723833-B1.
XX
XX 20-APR-2004.
XX
XX 17-NOV-2000; 2000US-00716028.
XX
XX 02-JUL-1997; 97US-0051554P.
XX
XX 30-JUN-1998; 98US-00109207.
XX
XX (GETH) GENENTECH INC.
XX
XX Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX WPI; 2004-326922/30.
XX
XX New composition of an improved anti-IgE antibody or IgE binding fragment,
XX useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma,
XX conjunctivitis, eczema, urticaria or food allergies.
XX
XX Claim 7, SEQ ID NO 25; 89pp; English.
XX
XX The invention relates to therapeutic compositions comprising anti-IgE
XX

CC antibody or IgE binding fragment in combination with an adjunct
CC immunosuppressive agent. The composition is useful for treating IgE-
CC mediated disorders. The disorders include atopic allergy associated with
CC anaphylactic hypersensitivity and asthma, allergic rhinitis and
CC conjunctivitis, eczema, urticaria and food allergies. The present
CC sequence is an anti-IgE antibody variable heavy chain (VH) F(ab)' 2
CC fragment.

XX Sequence 233 AA;

Query Match 100.0%; Score 625; DB 8; Length 233;

Best Local Similarity 100.0%; Pred. No. 1.4e-49; Mismatches 0; Gaps 0;

Matches 114; Conservative 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPKGLFWASITVDGSTNY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPKGLFWASITVDGSTNY 60
QY 61 NPSVKGRITTSRSDSKNTFYLQNMSLRAEDTAVYYCARSGSHYFGHMFPAWGQG 114
DB 61 NPSVKGRITTSRSDSKNTFYLQNMSLRAEDTAVYYCARSGSHYFGHMFPAWGQG 114

RESULT 11

AAW95667 ID AAW95667 standard; protein; 248 AA.

AAW95667; AC

08-JUN-1999 (first entry) DT

Mus musculus anti-IgE e26 sFv fragment. DE

XX sFv fragment; IgE; antibody; anti-IgE; reduction; prevention; histamine;
KM production; hypersensitivity; allergen; anaphylaxis; atopic allergy;
KM asthma; allergic rhinitis; conjunctivitis; hay fever; eczema;
KM anaphylactic shock; urticaria.

XX Mus musculus. OS

XX WO9901556-A2. PN

14-JAN-1999. PD

30-JUN-1998; 98WO-US013410. PF

02-JUL-1997; 97US-00887352. PR

(GETH) GENENTECH INC. PA

Lowman HB, Presta LG, Jardieu PM, Lowe J; PI

WPI; 1999-106057/09. DR

XX Improving affinity of polypeptides, particularly anti-IgE antibodies - by
PT identifying aspartyl residues which undergo isomerization and
PT substituting alternative residues and screening for affinity against the
PT target.

PS Disclosure; Page 102-103; 123pp; English.

XX The sequence is that of the e26 sFv fragment. It was used as part of a
CC method to improve the affinity of anti-IgE antibodies such as e26 and
CC e27. The e26 and e27 antibodies can be used for reducing or preventing
CC IgE mediated production of histamine in a mammal. They can be used for
CC treating a disorder mediated by IgE such as hypersensitivity, atopic
CC allergy, asthma, allergic rhinitis, conjunctivitis, hay fever, eczema,
CC anaphylactic shock and urticaria. The antibodies can also be used for
CC affinity purification, detection and diagnosis

XX Sequence 248 AA;

Query Match 100.0%; Score 625; DB 2; Length 248;

Best Local Similarity 100.0%; Pred. No. 1.5e-49; Mismatches 0; Gaps 0;

Matches 114; Conservative 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPKGLFWASITVDGSTNY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPKGLFWASITVDGSTNY 60
QY 61 NPSVKGRITTSRSDSKNTFYLQNMSLRAEDTAVYYCARSGSHYFGHMFPAWGQG 114
DB 61 NPSVKGRITTSRSDSKNTFYLQNMSLRAEDTAVYYCARSGSHYFGHMFPAWGQG 114

RESULT 12

AAW95667 ID AAW95667 standard; protein; 248 AA.

AAW95667; AC

17-APR-2001 (first entry) DT

SFv fragment of e26 sFv ID 22. DE

XX Antibody; antiasthmatic; anti-allergic; ophthalmological; dermatological;
KM antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis;
KM conjunctivitis; eczema; urticaria; food allergy.

XX Synthetic. OS

XX US6172213-B1. PN

09-JAN-2001. PD

30-JUN-1998; 98US-00109207. PF

02-JUL-1997; 97US-0051554P. PR

(GETH) GENENTECH INC. PA

Lowman HB, Presta LG, Jardieu PM, Lowe J; PI

WPI; 2001-122353/13. DR

XX New nucleic acid encoding anti-immunoglobulin E antibody with improved
PT properties, produced by substituting aspartyl residues in unimproved
PT immunoglobulin E prone to isomerization by other residues by affinity
PT maturation with phage display.

PS Disclosure; Fig 14; 87pp; English.

XX This invention relates to a nucleotide sequence encoding an antibody with
CC improved anti-IgE antibody activity. The antibody has improved action due
CC to a process comprising, a) identifying aspartyl residues prone to
CC isomerization in unimproved anti-IgE (immunoglobulin E) antibody; b)
CC substituting alternative residues to create candidate molecules, and c)
CC selecting those candidate molecules which display affinity against the
CC target molecule. Use of the antibody results in antiasthmatic;
CC anti-allergic; ophthalmological; dermatological and antiinflammatory
CC activity. The antibodies are useful for treating IgE-mediated disorders
CC such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
CC food allergies. The mutant antibodies produced by the above mentioned
CC nucleic acids may also be used as affinity purification agents and in
CC diagnostic assays for detecting the expression of an antigen of interest
CC in specific cell, tissues or serum. Amino acid sequences AAW95667-
CC AAW95660 represent fragments of anti-IgE antibodies of the invention.
CC Polynucleotide sequence AAF69253 represents an expression plasmid used in
CC the course of the invention, and oligonucleotides AAF69254 - AAF69271 are
CC used in the generation of affinity improved anti-IgE antibodies

XX Sequence 248 AA;

Query Match 100.0%; Score 625; DB 4; Length 248;

Best Local Similarity 100.0%; Pred. No. 1.5e-49; Mismatches 0; Gaps 0;

Matches 114; Conservative 0; Indels 0; Gaps 0;

Oy	1	EVOLVESGGGLVQPGGSLRLSCA	VGYGITSGYSNMWIRQAPGKLEWVASITTDGSTNY	60
Dd	1	EVOLVESGGGLVQPGGSLRLSCA	VGSYITSGYSNMWIRQAPGKLEWVASITTDGSTNY	60
Oy	61	NPSVKGRTISRDSKNTFYIOMNSLRADPTAVYYCARGSHYFGHMFAVWGOG	114	
Dd	61	NPSVKGRTISRDSKNTFYIOMNSLRADPTAVYYCARGSHYFGHMFAVWGOG	114	
 RESULT 13 ADN07043 standard; protein; 248 AA.				
ID	ADN07043			
AC	ADN07043;			
XX	ADN07043;			
DT	01-JUL-2004 (first entry)			
XX	Anti-IgE antibody e26 sfv fragment.			
DE	Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder;			
KM	therapy; atopic allergy; anaphylactic hypersensitivity; asthma;			
KW	allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy.			
XX	Unidentified.			
OS	US6723833-B1.			
PN	US6723833-B1.			
XX	20-Apr-2004.			
PD	17-NOV-2000; 2000US-00716028.			
XX	02-JUL-1997; 97US-0051554P.			
PF	PR 30-JUN-1998; 98US-00109207.			
PR	(GETH) GENENTECH INC.			
XX	Lowman HB, Presta LG, Jardieu PM, Lowe J;			
PA	WP1; 2004-326922/30.			
Pt	New composition of an improved anti-IgE antibody or IgE binding fragment,			
XX	useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma,			
XX	conjunctivitis, eczema, urticaria or food allergies.			
XX	Claim 7; SEQ ID NO 22; 89pp; English.			
CC	The invention relates to therapeutic compositions comprising anti-IgE			
CC	antibody or IgE binding fragment in combination with an adjunct			
CC	immunosuppressive agent. The composition is useful for treating IgE-			
CC	mediated disorders. The disorders include atopic allergy associated with			
CC	anaphylactic hypersensitivity and asthma, allergic rhinitis and			
CC	conjunctivitis, eczema, urticaria and food allergies. The present			
CC	sequence is an anti-IgE antibody sfv fragment.			
SQ	Sequence 248 AA;			
 Query Match 100.0%; Score 625; DB 8; Length 248; Best Local Similarity 100.0%; Pred. No. 1.5e-43; Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;				
Oy	1	EVOLVESGGGLVQPGGSLRLSCA	VGYGITSGYSNMWIRQAPGKLEWVASITTDGSTNY	60
Dd	1	EVOLVESGGGLVQPGGSLRLSCA	VGSYITSGYSNMWIRQAPGKLEWVASITTDGSTNY	60
Oy	61	NPSVKGRTISRDSKNTFYIOMNSLRADPTAVYYCARGSHYFGHMFAVWGOG	114	
Dd	61	NPSVKGRTISRDSKNTFYIOMNSLRADPTAVYYCARGSHYFGHMFAVWGOG	114	
 RESULT 14 AAW95659 standard; protein; 451 AA. ID AAW95659				

```

XX AC AAW955659;
XX XX
XX DT 08-JUN-1999 (first entry)
XX XX
XX DE Mus musculus anti-IgE e25 full length variable heavy chain.
XX XX
XX KM Heavy chain; IGE; antibody; anti-IGE; reduction; prevention; histamine;
XX KM production; hypersensitivity; allergen; anaphylaxis; atopic allergy;
XX KM asthma; allergic rhinitis; conjunctivitis; hay fever; eczema;
XX KM anaphylactic shock; urticaria.
XX OS
XX SM Mus musculus.
XX XX
XX PN W09901556-A2.
XX PD
XX PD 14-JAN-1999.
XX PF
XX PF 30-JUN-1998; 98WO-US013410.
XX PR 02-JUL-1997; 97US-00887352.
XX XX
XX PA (GETH ) GENENTECH INC.
XX PI Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX DR WPI; 1999-106057/09.
XX PS
XX PT Improving affinity of polypeptides, particularly anti-IgE antibodies - by
XX PT identifying aspartyl residues which undergo isomerisation and
XX PT substituting alternative residues and screening for affinity against the
XX PT target.
XX XX
XX PS Disclosure; Page 92-94; 129p; English.
XX CC
XX CC The sequence is that of the full length heavy chain of e25. It was used as
XX CC part of a method to improve the affinity of anti-IgE antibodies such as
XX CC e26 and e27. The e26 and e27 antibodies can be used for reducing or
XX CC preventing IGE mediated production of histamine in a mammal. They can be
XX CC used for treating a disorder mediated by IGE such as hypersensitivity,
XX CC atopic allergy, asthma, allergic rhinitis, conjunctivitis, hay fever,
XX CC eczema, anaphylactic shock and urticaria. The antibodies can also be used
XX CC for affinity purification, detection and diagnosis
XX CC
XX SQ Sequence 451 AA;
XX XX
XX Query Match 100.0%; Score 625; DB 2; Length 451;
XX Best Local Similarity 100.0%; Pred. No. 2.9e-49; Mismatches 0; Gaps 0
XX Matches 114; Conservative 0; Indels 0;
XX
XX QY 1 EVOLVESGGGVOPGSGRLSCAVSGVSGITSGYNNMWRQAFGKLEWVASITTDGSTNY 60
XX DB 1 EVOLVESGGGVOPGSGRLSCAVSGVSGITSGYNNMWRQAFGKLEWVASITTDGSTNY 60
XX QY 61 NPSYKGRITTRDSDSKNTFYIOMNSLRADTAVYICARGSHYFGHMFVAVMGQG 114
XX DB 61 NPSYKGRITTRDSDSKNTFYIOMNSLRADTAVYICARGSHYFGHMFVAVMGQG 114
XX QY 61 NPSYKGRITTRDSDSKNTFYIOMNSLRADTAVYICARGSHYFGHMFVAVMGQG 114
XX DB 61 NPSYKGRITTRDSDSKNTFYIOMNSLRADTAVYICARGSHYFGHMFVAVMGQG 114
XX
XX RESULT 15 /
XX ID AAW95661
XX AC AAW95661 standard; protein; 451 AA.
XX AC AAW95661;
XX XX
XX DT 08-JUN-1999 (first entry)
XX DE Mus musculus anti-IgE e26 full length heavy chain.
XX XX
XX KM Heavy chain; IGB; antibody; anti-IGE; reduction; prevention; histamine;
XX KM production; hypersensitivity; allergen; anaphylaxis; atopic allergy;
XX KM asthma; allergic rhinitis; conjunctivitis; hay fever; eczema;
XX KM anaphylactic shock; urticaria.

```

XX OS Mus musculus.
XX PN MO9901556-A2.
XX PD 14-JAN-1999.
XX PF 30-JUN-1998; 98WO-US013410.
XX PR 02-JUL-1997; 97US-00887352.
XX (GETH) GENENTECH INC.
XX PI Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX WPI; 1999-106057/09.
XX
XX PT Improving affinity of polypeptides, particularly anti-IgE antibodies - by
XX PT identifying aspartyl residues which undergo isomerisation and
XX PT substituting alternative residues and screening for affinity against the
XX PT target.
XX PS Disclosure; Page 95-96; 129pp; English.
XX
XX CC The sequence is that of the full length heavy chain of e26. It was used
XX CC as part of a method to improve the affinity of anti-IgE antibodies such
XX CC as e26 and e27. The e26 and e27 antibodies can be used for reducing or
XX CC preventing IgE mediated production of histamine in a mammal. They can be
XX CC used for treating a disorder mediated by IgE such as hypersensitivity,
XX CC atopic allergy, asthma, allergic rhinitis, conjunctivitis, hay fever,
XX CC eczema, anaphylactic shock and urticaria. The antibodies can also be used
XX CC for affinity purification, detection and diagnosis
XX
XX SQ Sequence 451 AA;
XX
XX Query Match 100.0%; Score 625; DB 2; Length 451;
XX Best Local Similarity 100.0%; Pred. No. 2.9e-49;
XX Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSMMNIRQAPKGLKLEWVASITFDGSTNY 60
XX Db 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSMMNIRQAPKGLKLEWVASITFDGSTNY 60
XX
XX QY 61 NPSYKGRITTSRSDSKNTFTYLOMNSLRAPDTAVYYCARSGHYFGMHFAVWGOG 114
XX Db 61 NPSYKGRITTSRSDSKNTFTYLOMNSLRAPDTAVYYCARSGHYFGMHFAVWGOG 114
XX
XX RESULT 16
XX ID AAY85201 standard; protein; 451 AA.
XX AC AAY85201;
XX
XX DT 29-JUN-2000 (first entry)
XX
XX DE Light chain amino acid sequence of anti-human IgE antibody.
XX
XX KM Immunoglobulin E; IgE; anti-human IgE; bispecific antibody; FcEL; FcEH;
XX KM low affinity binding receptor; high affinity binding receptor; allergy;
XX KM diagnosis; treatment; histamine release; heavy chain; prevent.
XX
XX OS Mus sp.
XX
XX PN US6037453-A.
XX PD 14-MAR-2000.
XX
XX PF 06-JUN-1995; 95US-00466151.
XX
XX PR 14-AUG-1992; 92WO-US006860.
XX PR 26-JAN-1994; 94US-00185899.
XX PR 15-MAR-1995; 95US-00405617.

XX PA (GETH) GENENTECH INC.
XX PI Presta LG, Jardieu PM;
XX WPI; 2000-269913/23.
XX
XX DR New bispecific antibodies, useful for treating immunoglobulin E-mediated
XX PT disease, binds to IgE, but only when on the low affinity receptor, and to
XX PT an antigen other than IgE.
XX
XX PS Claim 15; Col 73-76; 48pp; English.
XX
XX CC This sequence represents the light chain amino acid sequence of a mouse
XX CC anti-human immunoglobulin E (IgE) antibody. The invention relates to a
XX CC bispecific antibody that binds specifically to IgE when IgE is bound to
XX CC its low affinity receptor (FcEL), but does not bind to IgE, when IgE is
XX CC bound to its high affinity receptor (FcEH). The bispecific antibody
XX CC comprises an IgE-binding arm with human framework residues of a recipient
XX CC human antibody and donor murine CDR (complementarity determining region)
XX CC residues, but with at least one human CDR residue replacing the analogous
XX CC murine residue. The antibody also comprises an Fv that is specific for a
XX CC predetermined antigen other than IgE. The antibodies work by displacing
XX CC bound IgE from its receptor, or via competitive inhibition of its
XX CC binding. The bispecific antibodies are used for diagnosis, treatment and
XX CC prevention of allergy and other IgE-mediated diseases, also, when
XX CC immobilised, for the isolation of FcEL from cells (for research or
XX CC therapy). The bispecific antibodies of the invention do not cause
XX CC granulation or release of histamine from mast cells
XX
XX SQ Sequence 451 AA;
XX
XX Query Match 100.0%; Score 625; DB 3; Length 451;
XX Best Local Similarity 100.0%; Pred. No. 2.9e-49;
XX Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSMMNIRQAPKGLKLEWVASITFDGSTNY 60
XX Db 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSMMNIRQAPKGLKLEWVASITFDGSTNY 60
XX
XX QY 61 NPSYKGRITTSRSDSKNTFTYLOMNSLRAPDTAVYYCARSGHYFGMHFAVWGOG 114
XX Db 61 NPSYKGRITTSRSDSKNTFTYLOMNSLRAPDTAVYYCARSGHYFGMHFAVWGOG 114
XX
XX RESULT 17
XX ID AAB47088 standard; protein; 451 AA.
XX AC AAB47088;
XX
XX DT 11-SEP-2003 (revised)
XX DT 08-MAY-2001 (first entry)
XX
XX DE Anti-IgE antibody, E26, heavy chain.
XX
XX KM Light chain; heavy chain; anti-IgE antibody; E26; transfection;
XX KM green fluorescent protein; GFP; promoter; expression.
XX
XX OS Homo sapiens.
XX OS Mus musculus.
XX OS Chimeric.
XX
XX PN WO200104306-A1.
XX PD 18-JAN-2001.
XX
XX PF 11-JUL-2000; 2000WO-US018841.
XX PR 12-JUL-1999; 99US-0143360P.
XX
XX PA (GETH) GENENTECH INC.

PI Chisholm V, Crowley CW, Krummen LA, Meng YG;
XX WPI; 2001-138352/14.
XX
XX Novel polynucleotide construct for screening and obtaining cells
PT expressing high levels of desired protein, comprises amplifiable
PT selectable gene, fluorescent protein gene and sequence encoding desired
XX product.
XX
XX Disclosure; Fig 13B; 75pp; English.
XX
XX The sequences given in AAB47087-88 represent the light and heavy chains
CC of the anti-1G8 antibody, E26. These sequences were expressed by the
CC construct of the invention, which comprises an amplifiable selectable
CC gene, a green fluorescent protein gene (GFP), and a selected sequence
CC encoding a desired product, which is operably linked to either the
CC amplifiable selectable gene or to the GFP gene, and to a promoter.
CC Constructs such as this, are useful for producing a desired product by
CC introduction into a suitable eukaryotic cell, culturing the resultant
CC eukaryotic cell under conditions so as to express the desired product,
CC and recovering the desired product from the culture medium. The
CC constructs are efficient for identifying and selecting for stable
CC eukaryotic cells expressing high levels of a desired product. They are
CC suitable for earlier and faster screening of transfected cells. (Updated
CC on 11-SEP-2003 to standardise OS field)
XX
SQ Sequence 451 AA;
XX
Query Match 100.0%; Score 625; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.9e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
QY 1 EVQLVESGGGLVQPGGSLRLSCAASGYSITSGYSMMNIRQAPGKLEWVASITDGSITNY 60
DB 1 EVQLVESGGGLVQPGGSLRLSCAASGYSITSGYSMMNIRQAPGKLEWVASITDGSITNY 60
QY 61 NPSYKGRITTSRDSDSKNTFTYLNQNSLRAPDTAVYVCARGSHYFGHMHPAVWGQG 114
DB 61 NPSYKGRITTSRDSDSKNTFTYLNQNSLRAPDTAVYVCARGSHYFGHMHPAVWGQG 114
XX
RESULT 18
AAB76948
ID AAB76948 standard; protein; 451 AA.
XX
AC AAB76948;
XX
DT 17-APR-2001 (first entry)
XX
DE Full length heavy chain sequence of e25 SEQ ID 14.
XX
XX Antibody; antiaesthetic; antiallergic; ophthalmological; dermatological;
KW antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis;
KW conjunctivitis; eczema; urticaria; food allergy.
XX
OS Synthetic.
XX
XX US6172213-B1.
XX
XX 09-JAN-2001.
XX
XX 30-JUN-1998; 98US-00109207.
XX
XX 02-JUL-1997; 97US-0051554P.
XX
XX (GETH) GENENTECH INC.
XX
XX Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX
XX WPI; 2001-122353/13.
XX
XX New nucleic acid encoding anti-immunoglobulin E antibody with improved
PT properties, produced by substituting asparlyl residues in unimproved
PT

PT immunoglobulin E prone to isomerization by other residues by affinity
PT maturation with phase display.
XX
XX
XX Disclosure; Fig 12; 87pp; English.
XX
XX This invention relates to a nucleotide sequence encoding an antibody with
CC improved anti-1G8 antibody activity. The antibody has improved action due
CC to a process comprising, a) identifying asparlyl residues prone to
CC isomerization in unimproved anti-1G8 (immunoglobulin E) antibody; b)
CC substituting alternative residues to create candidate molecules, and c)
CC selecting those candidate molecules which display affinity against the
CC target molecule. Use of the antibody results in antiaesthetic;
CC antiallergic; ophthalmological; dermatological and antiinflammatory
CC activity. The antibodies are useful for treating 1G8-mediated disorders
CC such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
CC food allergies. The mutant antibodies produced by the above mentioned
CC nucleic acids may also be used as affinity purification agents and in
CC diagnostic assays for detecting the expression of an antigen of interest
CC in specific cell, tissues or serum. Amino acid sequences AAB76936-
CC AAB76960 represent fragments of anti-1G8 antibodies of the invention.
CC Polynucleotide sequence AAF69253 represents an expression plasmid used in
CC the course of the invention, and oligonucleotides AAF69254 - AAF69271 are
CC used in the generation of affinity improved anti-1G8 antibodies
XX
SQ Sequence 451 AA;
XX
Query Match 100.0%; Score 625; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.9e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
QY 1 EVQLVESGGGLVQPGGSLRLSCAASGYSITSGYSMMNIRQAPGKLEWVASITDGSITNY 60
DB 1 EVQLVESGGGLVQPGGSLRLSCAASGYSITSGYSMMNIRQAPGKLEWVASITDGSITNY 60
QY 61 NPSYKGRITTSRDSDSKNTFTYLNQNSLRAPDTAVYVCARGSHYFGHMHPAVWGQG 114
DB 61 NPSYKGRITTSRDSDSKNTFTYLNQNSLRAPDTAVYVCARGSHYFGHMHPAVWGQG 114
XX
RESULT 19
AAB76950
ID AAB76950 standard; protein; 451 AA.
XX
AC AAB76950;
XX
DT 17-APR-2001 (first entry)
XX
DE Full length heavy chain sequence of e26 SEQ ID 16.
XX
XX Antibody; antiaesthetic; antiallergic; ophthalmological; dermatological;
KW antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis;
KW conjunctivitis; eczema; urticaria; food allergy.
XX
OS Synthetic.
XX
XX US6172213-B1.
XX
XX 09-JAN-2001.
XX
XX 30-JUN-1998; 98US-00109207.
XX
XX 02-JUL-1997; 97US-0051554P.
XX
XX (GETH) GENENTECH INC.
XX
XX Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX
XX WPI; 2001-122353/13.
XX
XX New nucleic acid encoding anti-immunoglobulin E antibody with improved
PT properties, produced by substituting asparlyl residues in unimproved
PT immunoglobulin E prone to isomerization by other residues by affinity
PT maturation with phase display.

XX Claim 2; Fig 12; 87pp; English.
XX
XX This invention relates to a nucleotide sequence encoding an antibody with
CC improved anti-IgE antibody activity. The antibody has improved action due
CC to a process comprising, a) identifying aspartyl residues prone to
CC isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b)
CC substituting alternative residues to create candidate molecules, and c)
CC selecting those candidate molecules which display affinity against the
CC target molecule. Use of the antibody results in antiasthmatic;
CC anti-allergic; ophthalmological; dermatological and anti-inflammatory
CC activity. The antibodies are useful for treating IgE-mediated disorders
CC such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
CC food allergies. The mutant antibodies produced by the above mentioned
CC nucleic acids may also be used as affinity purification agents and in
CC diagnostic assays for detecting the expression of an antigen of interest
CC in a specific cell, tissues or serum. Amino acid sequences AAB76936-
CC AAB76960 represent fragments of anti-IgE antibodies of the invention.
CC Polynucleotide sequence AAF69253 represents an expression plasmid used in
CC the course of the invention, and oligonucleotides AAF69254 - AAF69271 are
CC used in the generation of affinity improved anti-IgE antibodies
XX
XX Sequence 451 AA;

Query Match 100.0%; Score 625; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.9e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMIRQAPGKLEWVASITPDGSTNY 60
DB 1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMIRQAPGKLEWVASITPDGSTNY 60
61 NPSVKGRITISRDSKNTFTYLOMNSLRADTAVYVCARGSHYFGHMFPAWVGQ 114

QY 61 NPSVKGRITISRDSKNTFTYLOMNSLRADTAVYVCARGSHYFGHMFPAWVGQ 114
DB 61 NPSVKGRITISRDSKNTFTYLOMNSLRADTAVYVCARGSHYFGHMFPAWVGQ 114

RESULT 20
ADN07037

ID ADN07037 standard; protein; 451 AA.

XX AC ADN07037;

XX DT 01-JUL-2004 (first entry)

XX DE Anti-IgE antibody e26 full length variable light chain (VH).

XX KW Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder;
XX KW therapy; atopic allergy; anaphylactic hypersensitivity; asthma;
XX KW allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy;
XX KW variable heavy chain; VH.

XX OS Unidentified.

XX PN US6723833-B1.

XX PD 20-APR-2004.

XX PF 17-NOV-2000; 2000US-00716028.

XX PR 02-JUL-1997; 97US-0051554P.

XX PR 30-JUN-1998; 98US-00109207.

XX PA (GETH) GENENTECH INC.

XX PI Lowman HB, Presta LG, Jardieu PM, Lowe J;

XX DR WPI, 2004-326922/30.

XX PT New composition of an improved anti-IgE antibody or IgE binding fragment,
XX PT useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma,
XX PT conjunctivitis, eczema, urticaria or food allergies.

PS Claim 1; SEQ ID NO 16; 89pp; English.

XX The invention relates to therapeutic compositions comprising anti-IgE
CC antibody or IgE binding fragment in combination with an adjunct
CC immunosuppressive agent. The composition is useful for treating IgE-
CC mediated disorders. The disorders include atopic allergy associated with
CC anaphylactic hypersensitivity and asthma, allergic rhinitis and
CC conjunctivitis, eczema, urticaria and food allergies. The present
CC sequence is an anti-IgE antibody variable heavy chain domain (VH).

XX
XX Sequence 451 AA;

Query Match 100.0%; Score 625; DB 8; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.9e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMIRQAPGKLEWVASITPDGSTNY 60
DB 1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMIRQAPGKLEWVASITPDGSTNY 60
61 NPSVKGRITISRDSKNTFTYLOMNSLRADTAVYVCARGSHYFGHMFPAWVGQ 114

QY 61 NPSVKGRITISRDSKNTFTYLOMNSLRADTAVYVCARGSHYFGHMFPAWVGQ 114
DB 61 NPSVKGRITISRDSKNTFTYLOMNSLRADTAVYVCARGSHYFGHMFPAWVGQ 114

RESULT 21
ADN07035

ID ADN07035 standard; protein; 451 AA.

XX AC ADN07035;

XX DT 01-JUL-2004 (first entry)

XX DE Anti-IgE antibody e25 full length variable light chain (VH).

XX KW Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder;
XX KW therapy; atopic allergy; anaphylactic hypersensitivity; asthma;
XX KW allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy;
XX KW variable heavy chain; VH.

XX OS Unidentified.

XX PN US6723833-B1.

XX PD 20-APR-2004.

XX PF 17-NOV-2000; 2000US-00716028.

XX PR 02-JUL-1997; 97US-0051554P.

XX PR 30-JUN-1998; 98US-00109207.

XX PA (GETH) GENENTECH INC.

XX PI Lowman HB, Presta LG, Jardieu PM, Lowe J;

XX DR WPI, 2004-326922/30.

XX PT New composition of an improved anti-IgE antibody or IgE binding fragment,
XX PT useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma,
XX PT conjunctivitis, eczema, urticaria or food allergies.

XX PS Disclosure, SEQ ID NO 14; 89pp; English.

XX The invention relates to therapeutic compositions comprising anti-IgE
CC antibody or IgE binding fragment in combination with an adjunct
CC immunosuppressive agent. The composition is useful for treating IgE-
CC mediated disorders. The disorders include atopic allergy associated with
CC anaphylactic hypersensitivity and asthma, allergic rhinitis and
CC conjunctivitis, eczema, urticaria and food allergies. The present
CC sequence is an anti-IgE antibody variable heavy chain domain (VH).

XX
XX Sequence 451 AA;

Query Match 100.0%; Score 625; DB 8; Length 451;
 Best Local Similarity 100.0%; Pred. No. 2.9e-49;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSWMNIRQAPGKGLEWVASITTDGSTNY 60
 DB 1 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSWMNIRQAPGKGLEWVASITTDGSTNY 60

QY 61 NPSYKGRITTSRDDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114
 DB 61 NPSYKGRITTSRDDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114

RESULT 22
 ADQ90734 standard; protein; 474 AA.
 XX ADQ90734;
 AC ADQ90734;
 DT 21-OCT-2004 (first entry)
 XX
 DE Anti-IGB antibody E25 heavy chain protein SEQ ID NO:15.
 XX
 XX antibody; antigen binding fragment; cell culture; variable domain;
 KW modified framework region; hypervariable region; cytostatic;
 KW antitumour; antitumour; antitumour; antitumour; antitumour; antitumour;
 KW tumour; inflammatory disorder; angiogenic disorder;
 KW immunological disorder; anti-IGB antibody;
 KW anti immunoglobulin E antibody; heavy chain.
 XX
 OS Homo sapiens.
 OS Synthetic.
 OS
 PN WO2004065417-A2.
 PD 05-AUG-2004.
 PF 23-JAN-2004; 2004MO-US001844.
 PR 23-JAN-2003; 2003US-0442484P.
 PA (GETH) GENENTECH INC.
 PI Simmons L;
 PI
 DR WPI; 2004-562149/54.
 DR N-PADB; ADQ90716.
 XX
 XX
 PT Producing an antibody or antigen binding fragment in high yield in a cell
 PT culture, comprises expressing a variable domain with a modified framework
 PT region in a host cell.
 XX
 PS Example 3; SEQ ID NO 21; 161pp; English.
 XX
 CC The present invention describes a method for producing an antibody or
 CC antigen binding fragment in high yield in a cell culture. The method
 CC comprises expressing a variable domain of the antibody or antigen binding
 CC fragment comprising a modified framework region (FR) in a host cell, and
 CC recovering the antibody or antigen binding fragment variable domain
 CC comprising the modified framework from the host cell. The modified FR in
 CC the method described above has a substitution of at least one amino acid
 CC position with a different amino acid, where the different amino acid is
 CC the amino acid found at the corresponding FR position of a human subgroup
 CC (HVR1) and/or HVR2 amino acid sequence with the most sequence identity
 CC with a corresponding HVR1 and/or HVR2 sequence of the variable domain.
 CC The antibody or antigen binding fragment variable domain comprises the
 CC modified FR that has improved yield in cell culture compared to an
 CC unmodified antibody or antigen-binding fragment. The antibody and antigen
 CC binding fragment have cytostatic, antitumour, antitumour, antitumour and
 CC immunomodulatory activities, and can be used in antibody therapy. The
 CC methods and compositions of the present invention are useful for
 CC producing antibodies or antigen binding fragments in cell culture, in

CC particular for improving the yield of recombinant antibodies or antigen
 CC binding fragments in cell culture. The antibodies of the invention can be
 CC used to diagnose, treat, inhibit or prevent e.g. tumours and
 CC inflammatory, angiogenic and immunological disorders. The present
 CC sequence represents the heavy chain of an anti-IGB (immunoglobulin E)
 CC antibody, which is used in the exemplification of the present invention.
 XX

Sequence 474 AA:

QY 1 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSWMNIRQAPGKGLEWVASITTDGSTNY 60
 DB 24 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSWMNIRQAPGKGLEWVASITTDGSTNY 83

QY 61 NPSYKGRITTSRDDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114
 DB 84 NPSYKGRITTSRDDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 137

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OM protein - protein search, using sw model

Run on: June 3, 2005, 12:41:33 ; Search time 22 Seconds
(Without alignments)
386.818 Million cell updates/sec

Title: US-10-791-619-11

Perfect score: 1 EVOLVESGGGLVPGGSLRL.....YCARSHYFGHMFPAWGQG 114

Sequence: 1 EVOLVESGGGLVPGGSLRL.....YCARSHYFGHMFPAWGQG 114

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

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Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

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- 2: /cgm2_6/ptodata/1/1aa/5B_COMB.pep:*
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- 6: /cgm2_6/ptodata/1/1aa/backfile1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	623	100.0	114	2	US-08-887-352B-11
2	623	100.0	114	3	US-09-109-207C-11
3	623	100.0	114	3	US-09-296-005-11
4	623	100.0	114	4	US-09-920-171-11
5	623	100.0	114	4	US-09-716-028-11
6	623	100.0	114	4	US-10-113-996-11
7	623	100.0	229	2	US-08-887-352B-21
8	623	100.0	229	2	US-09-109-207C-21
9	623	100.0	229	3	US-09-296-005-21
10	623	100.0	229	4	US-09-920-171-21
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12	623	100.0	229	4	US-10-113-996-21
13	623	100.0	233	2	US-08-887-352B-26
14	623	100.0	233	3	US-09-109-207C-26
15	623	100.0	233	3	US-09-296-005-26
16	623	100.0	233	4	US-09-920-171-26
17	623	100.0	233	4	US-09-716-028-26
18	623	100.0	233	4	US-10-113-996-26
19	623	100.0	248	2	US-08-887-352B-73
20	623	100.0	248	2	US-09-109-207C-73
21	623	100.0	248	3	US-09-296-005-73
22	623	100.0	248	4	US-09-920-171-73
23	623	100.0	248	4	US-09-716-028-73
24	623	100.0	248	4	US-10-113-996-73
25	623	100.0	451	2	US-08-887-352B-18
26	623	100.0	451	3	US-09-109-207C-18
27	623	100.0	451	3	US-09-296-005-18

28	623	100.0	451	3	US-09-054-255-2	Sequence 2, Appl1
29	623	100.0	451	3	US-09-296-005-18	Sequence 18, Appl1
30	623	100.0	451	3	US-09-282-846-2	Sequence 2, Appl1
31	623	100.0	451	4	US-09-680-145-2	Sequence 2, Appl1
32	623	100.0	451	4	US-09-920-171-18	Sequence 18, Appl1
33	623	100.0	451	4	US-09-716-028-18	Sequence 18, Appl1
34	623	100.0	451	4	US-09-483-588-2	Sequence 18, Appl1
35	623	100.0	451	4	US-10-113-996-18	Sequence 18, Appl1
36	603	96.8	114	2	US-08-887-352B-12	Sequence 12, Appl1
37	603	96.8	114	2	US-09-109-207C-12	Sequence 12, Appl1
38	603	96.8	114	3	US-09-296-005-12	Sequence 12, Appl1
39	603	96.8	114	4	US-09-920-171-12	Sequence 12, Appl1
40	603	96.8	114	4	US-09-716-028-12	Sequence 12, Appl1
41	603	96.8	114	4	US-10-113-996-12	Sequence 12, Appl1
42	603	96.8	229	2	US-08-887-352B-20	Sequence 20, Appl1
43	603	96.8	229	3	US-09-109-207C-20	Sequence 20, Appl1
44	603	96.8	229	3	US-09-296-005-20	Sequence 20, Appl1
45	603	96.8	229	4	US-09-920-171-20	Sequence 20, Appl1

ALIGNMENTS

```
RESULT 1
US-08-887-352B-11
; Sequence 11, Application US/0887352B
; Patent No. 5994511
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSER: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatIn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/887,352B
; FILING DATE: 03-Jul-1997
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Svoboda, Craig G.
; REGISTRATION NUMBER: 39,044
; REFERENCE/DOCKET NUMBER: P1123
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-1489
; TELEFAX: 650/952-9881
; INFORMATION FOR SEQ ID NO: 11:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 114 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
; US-08-887-352B-11
Query Match 100.0%; Score 623; DB 2; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 EVOLVESGGGLVPGGSLRLSCAASVGSITSGYSMNIRQAPGKLEWVASIKTSGETKY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAASVGSITSGYSMNIRQAPGKLEWVASIKTSGETKY 60
OY 61 NPSYKGRITTSRDSDSKNTFTYIQNNSLAEDTAIVYYCARGSHYFGHMFPAWGQG 114
DB 61 NPSYKGRITTSRDSDSKNTFTYIQNNSLAEDTAIVYYCARGSHYFGHMFPAWGQG 114
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RESULT 2
US-09-109-207C-11
; Sequence 11, Application US/09109207C
; Patent No. 6172213
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/109,207C
; CURRENT FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 11
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-114
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-109-207C-11
```

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Query Match          100.0%; Score 623; DB 3; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSGMMWIRQAPGKGLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSGMMWIRQAPGKGLEWVASIKYSGETKY 60
QY 61 NPSVKGRITTSRDSSKNTFYLOMNSLRAPDTAVYYCARSGSHYFGHMHPFAWVGQ 114
DB 61 NPSVKGRITTSRDSSKNTFYLOMNSLRAPDTAVYYCARSGSHYFGHMHPFAWVGQ 114
```

```
RESULT 3
US-09-296-005-11
; Sequence 11, Application US/09296005
; Patent No. 6290957
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123C1x
; CURRENT APPLICATION NUMBER: US/09/296,005
; CURRENT FILING DATE: 1999-04-21
; EARLIER APPLICATION NUMBER: US 08/887,352
; EARLIER FILING DATE: 1997-07-02
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 11
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-114
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-296-005-11
```

```
Query Match          100.0%; Score 623; DB 3; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSGMMWIRQAPGKGLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSGMMWIRQAPGKGLEWVASIKYSGETKY 60
QY 61 NPSVKGRITTSRDSSKNTFYLOMNSLRAPDTAVYYCARSGSHYFGHMHPFAWVGQ 114
DB 61 NPSVKGRITTSRDSSKNTFYLOMNSLRAPDTAVYYCARSGSHYFGHMHPFAWVGQ 114
```

```
RESULT 4
US-09-920-171-11
; Sequence 11, Application US/09920171
; Patent No. 6682735
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
; FILE REFERENCE: P1123C2US
; CURRENT APPLICATION NUMBER: US/09/920,171
; CURRENT FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 11
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-920-171-11
```

```
Query Match          100.0%; Score 623; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSGMMWIRQAPGKGLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSGMMWIRQAPGKGLEWVASIKYSGETKY 60
QY 61 NPSVKGRITTSRDSSKNTFYLOMNSLRAPDTAVYYCARSGSHYFGHMHPFAWVGQ 114
DB 61 NPSVKGRITTSRDSSKNTFYLOMNSLRAPDTAVYYCARSGSHYFGHMHPFAWVGQ 114
```

```
RESULT 5
US-09-716-028-11
; Sequence 11, Application US/09716028
; Patent No. 6723833
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/716,028
; CURRENT FILING DATE: 2000-11-17
; PRIOR APPLICATION NUMBER: US 09/109,207
; PRIOR FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 11
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-114
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-716-028-11
```

```
Query Match          100.0%; Score 623; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSGMMWIRQAPGKGLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSGMMWIRQAPGKGLEWVASIKYSGETKY 60
```

Qy 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDPAVYYCARGSHYFGHMFPAVWGOG 114
Db 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDPAVYYCARGSHYFGHMFPAVWGOG 114

RESULT 6
US-10-113-996-11

Sequence 11, Application US/10113996
Patent No. 6761889
GENERAL INFORMATION:
APPLICANT: Lowman, Henry B.
APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
TITLE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: P1123CJUS
CURRENT APPLICATION NUMBER: US/10/113,996
CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR FILING DATE: 2001-08-01
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 11
LENGTH: 114
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-10-113-996-11

Query Match 100.0%; Score 623; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 1,1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSWMNIRQAPGKGLVWASIKYSGRTKY 60
Db 1 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSWMNIRQAPGKGLVWASIKYSGRTKY 60

Qy 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDPAVYYCARGSHYFGHMFPAVWGOG 114
Db 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDPAVYYCARGSHYFGHMFPAVWGOG 114

RESULT 7
US-08-887-352B-21

Sequence 21, Application US/08887352B
Patent No. 5994511
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winpatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/887,352B
FILING DATE: 03-Jul-1997
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.

REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1123
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 21:
SEQUENCE CHARACTERISTICS:
LENGTH: 229 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-887-352B-21

Query Match 100.0%; Score 623; DB 2; Length 229;
Best Local Similarity 100.0%; Pred. No. 2,4e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSWMNIRQAPGKGLVWASIKYSGRTKY 60
Db 1 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSWMNIRQAPGKGLVWASIKYSGRTKY 60

Qy 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDPAVYYCARGSHYFGHMFPAVWGOG 114
Db 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDPAVYYCARGSHYFGHMFPAVWGOG 114

RESULT 8
US-09-109-207C-21

Sequence 21, Application US/09109207C
Patent No. 6172213
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
FILE REFERENCE: P1123RI
CURRENT APPLICATION NUMBER: US/09/109,207C
CURRENT FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 21
LENGTH: 229
TYPE: PRT
ORGANISM: Artificial
FEATURE:
NAME/KEY: Artificial
LOCATION: 1-229
OTHER INFORMATION: Heavy chain F(ab) derived from MAE11
US-09-109-207C-21

Query Match 100.0%; Score 623; DB 3; Length 229;
Best Local Similarity 100.0%; Pred. No. 2,4e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSWMNIRQAPGKGLVWASIKYSGRTKY 60
Db 1 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSWMNIRQAPGKGLVWASIKYSGRTKY 60

Qy 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDPAVYYCARGSHYFGHMFPAVWGOG 114
Db 61 NPSYKGRITISRDSKNTFYLOMNSLRAPDPAVYYCARGSHYFGHMFPAVWGOG 114

RESULT 9
US-09-296-005-21

Sequence 21, Application US/09296005
Patent No. 6290957
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123CJ1
CURRENT APPLICATION NUMBER: US/09/296,005
CURRENT FILING DATE: 1999-04-21
PRIOR APPLICATION NUMBER: US 08/887,352
EARLIER FILING DATE: 1997-07-02

; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 21
; LENGTH: 229
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-229
; OTHER INFORMATION: Heavy chain F(ab) derived from MAE11
US-09-296-005-21

Query Match 100.0%; Score 623; DB 3; Length 229;
Best Local Similarity 100.0%; Pred. No. 2.4e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSGMMIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSGMMIRQAPGKLEWVASIKYSGETKY 60
DB 61 NPSTVKGRTITSRDSSKNTFYLOMNSLRAPDTAVYYCARSGSHYFGHMFAVWGOG 114

RESULT 10
US-09-920-171-21
; Sequence 21, Application US/09920171
; Patent No. 6682735
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Prestea, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
; FILE REFERENCE: P1123C2US
; CURRENT APPLICATION NUMBER: US/09/920,171
; CURRENT FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 21
; LENGTH: 229
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain F(ab) derived from MAE11
US-09-920-171-21

Query Match 100.0%; Score 623; DB 4; Length 229;
Best Local Similarity 100.0%; Pred. No. 2.4e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSGMMIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSGMMIRQAPGKLEWVASIKYSGETKY 60
QY 61 NPSTVKGRTITSRDSSKNTFYLOMNSLRAPDTAVYYCARSGSHYFGHMFAVWGOG 114
DB 61 NPSTVKGRTITSRDSSKNTFYLOMNSLRAPDTAVYYCARSGSHYFGHMFAVWGOG 114

RESULT 11
US-09-716-028-21
; Sequence 21, Application US/09716028
; Patent No. 6723833
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Prestea, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/716,028
; CURRENT FILING DATE: 2000-11-17

; PRIOR APPLICATION NUMBER: US 09/109,207
; PRIOR FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 21
; LENGTH: 229
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-229
; OTHER INFORMATION: Heavy chain F(ab) derived from MAE11
US-09-716-028-21

Query Match 100.0%; Score 623; DB 4; Length 229;
Best Local Similarity 100.0%; Pred. No. 2.4e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSGMMIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSGMMIRQAPGKLEWVASIKYSGETKY 60
DB 61 NPSTVKGRTITSRDSSKNTFYLOMNSLRAPDTAVYYCARSGSHYFGHMFAVWGOG 114

RESULT 12
US-10-113-996-21
; Sequence 21, Application US/10113996
; Patent No. 6761889
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Prestea, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies
; FILE REFERENCE: P1123C3US
; CURRENT APPLICATION NUMBER: US/10/113,996
; CURRENT FILING DATE: 2002-04-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: US 09/920,171
; PRIOR FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 21
; LENGTH: 229
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain F(ab) derived from MAE11
US-10-113-996-21

Query Match 100.0%; Score 623; DB 4; Length 229;
Best Local Similarity 100.0%; Pred. No. 2.4e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSGMMIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVQPGGSLRLSCAASGYSITSGYSGMMIRQAPGKLEWVASIKYSGETKY 60
QY 61 NPSTVKGRTITSRDSSKNTFYLOMNSLRAPDTAVYYCARSGSHYFGHMFAVWGOG 114
DB 61 NPSTVKGRTITSRDSSKNTFYLOMNSLRAPDTAVYYCARSGSHYFGHMFAVWGOG 114

RESULT 13
US-08-887-352B-26
; Sequence 26, Application US/08887352B
; Patent No. 5994511

GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
TITLE OF INVENTION: Improving Polypeptides
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatIn (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/887,352B
FILING DATE: 03-Jul-1997
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1123
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 26:
SEQUENCE CHARACTERISTICS:
LENGTH: 233 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-887-352B-26

Query Match 100.0%; Score 623; DB 2; Length 233;
Best Local Similarity 100.0%; Pred. No. 2.4e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVLVESGGGLVPGGSLRLSCAAGSGYSGYSWMNIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVLVESGGGLVPGGSLRLSCAAGSGYSGYSWMNIRQAPGKLEWVASIKYSGETKY 60
QY 61 NPSVKGRITISRDSKNTFYLMNLSLAEDTAVYYCARGSHYFGHMFAVWGQ 114
DB 61 NPSVKGRITISRDSKNTFYLMNLSLAEDTAVYYCARGSHYFGHMFAVWGQ 114

RESULT 14
US-09-109-207C-26
Sequence 26, Application US/09109207C
Patent No. 6172213
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
FILE REFERENCE: P1123RI
CURRENT APPLICATION NUMBER: US/09/109,207C
CURRENT FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 26
LENGTH: 233
TYPE: PRT
ORGANISM: Artificial
FEATURE:
NAME/KEY: Artificial
LOCATION: 1-233
OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAb11
US-09-109-207C-26

Query Match 100.0%; Score 623; DB 3; Length 233;
Best Local Similarity 100.0%; Pred. No. 2.4e-54;

Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVLVESGGGLVPGGSLRLSCAAGSGYSGYSWMNIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVLVESGGGLVPGGSLRLSCAAGSGYSGYSWMNIRQAPGKLEWVASIKYSGETKY 60
QY 61 NPSVKGRITISRDSKNTFYLMNLSLAEDTAVYYCARGSHYFGHMFAVWGQ 114
DB 61 NPSVKGRITISRDSKNTFYLMNLSLAEDTAVYYCARGSHYFGHMFAVWGQ 114

RESULT 15
US-09-296-005-26
Sequence 26, Application US/09296005
Patent No. 6290957
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123C1T
CURRENT APPLICATION NUMBER: US/09/296,005
CURRENT FILING DATE: 1999-04-21
EARLIER APPLICATION NUMBER: US 08/887,352
EARLIER FILING DATE: 1997-07-02
NUMBER OF SEQ ID NOS: 26
SEQ ID NO 26
LENGTH: 233
TYPE: PRT
ORGANISM: Artificial
FEATURE:
NAME/KEY: Artificial
LOCATION: 1-233
OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAb11
US-09-296-005-26

Query Match 100.0%; Score 623; DB 3; Length 233;
Best Local Similarity 100.0%; Pred. No. 2.4e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVLVESGGGLVPGGSLRLSCAAGSGYSGYSWMNIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVLVESGGGLVPGGSLRLSCAAGSGYSGYSWMNIRQAPGKLEWVASIKYSGETKY 60
QY 61 NPSVKGRITISRDSKNTFYLMNLSLAEDTAVYYCARGSHYFGHMFAVWGQ 114
DB 61 NPSVKGRITISRDSKNTFYLMNLSLAEDTAVYYCARGSHYFGHMFAVWGQ 114

RESULT 16
US-09-920-171-26
Sequence 26, Application US/09920171
Patent No. 6682735
GENERAL INFORMATION:
APPLICANT: Lowman, Henry B.
APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
FILE REFERENCE: P1123C2US
CURRENT APPLICATION NUMBER: US/09/920,171
CURRENT FILING DATE: 2001-08-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 26
LENGTH: 233
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAb11
US-09-920-171-26

```
Query Match      100.0%; Score 623; DB 4; Length 233;
Best Local Similarity 100.0%; Pred. No. 2.4e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 EVOLVSGGGLVOPGSLRLSCAVSGYSITSGYSMMWIRQAPGKLEWVASIKYSGETKY 60
DB      1 EVOLVSGGGLVOPGSLRLSCAVSGYSITSGYSMMWIRQAPGKLEWVASIKYSGETKY 60

QY      61 NPSVKGRITISRDSKNTFYLMNSLRABDTAVYYCARSGSHYFGHMFPAWVGQ 114
DB      61 NPSVKGRITISRDSKNTFYLMNSLRABDTAVYYCARSGSHYFGHMFPAWVGQ 114

RESULT 17
US-09-716-028-26
; Sequence 26, Application US/09716028
; Patent No. 6723833
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-1gE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/716,028
; PRIOR FILING DATE: 2000-11-17
; PRIOR APPLICATION NUMBER: US 09/109,207
; PRIOR FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 26
; LENGTH: 233
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-233
; OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
US-09-716-028-26

Query Match      100.0%; Score 623; DB 4; Length 233;
Best Local Similarity 100.0%; Pred. No. 2.4e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 EVOLVSGGGLNPGSLRLSCAVSGYSITSGYSMMWIRQAPGKLEWVASIKYSGETKY 60
DB      1 EVOLVSGGGLVOPGSLRLSCAVSGYSITSGYSMMWIRQAPGKLEWVASIKYSGETKY 60

QY      61 NPSVKGRITISRDSKNTFYLMNSLRABDTAVYYCARSGSHYFGHMFPAWVGQ 114
DB      61 NPSVKGRITISRDSKNTFYLMNSLRABDTAVYYCARSGSHYFGHMFPAWVGQ 114

RESULT 18
US-10-113-996-26
; Sequence 26, Application US/10113996
; Patent No. 6761889
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-1gE Antibodies
; FILE REFERENCE: P1123C3US
; CURRENT APPLICATION NUMBER: US/10/113,996
; PRIOR FILING DATE: 2002-04-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: US 09/920,171
; PRIOR FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 26
; LENGTH: 233
```

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; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
US-10-113-996-26

Query Match      100.0%; Score 623; DB 4; Length 233;
Best Local Similarity 100.0%; Pred. No. 2.4e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 EVOLVSGGGLVOPGSLRLSCAVSGYSITSGYSMMWIRQAPGKLEWVASIKYSGETKY 60
DB      1 EVOLVSGGGLVOPGSLRLSCAVSGYSITSGYSMMWIRQAPGKLEWVASIKYSGETKY 60

QY      61 NPSVKGRITISRDSKNTFYLMNSLRABDTAVYYCARSGSHYFGHMFPAWVGQ 114
DB      61 NPSVKGRITISRDSKNTFYLMNSLRABDTAVYYCARSGSHYFGHMFPAWVGQ 114

RESULT 19
US-08-887-352B-23
; Sequence 23, Application US/08887352B
; Patent No. 5994511
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-1gE Antibodies and Method of
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatIn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/887,352B
; FILING DATE: 03-Jul-1997
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Syvoboda, Craig G.
; REGISTRATION NUMBER: 39,044
; REFERENCE/DOCKET NUMBER: P1123
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-1489
; TELEFAX: 650/952-9881
; INFORMATION FOR SEQ ID NO: 23:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 248 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
US-08-887-352B-23

Query Match      100.0%; Score 623; DB 2; Length 248;
Best Local Similarity 100.0%; Pred. No. 2.6e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 EVOLVSGGGLVOPGSLRLSCAVSGYSITSGYSMMWIRQAPGKLEWVASIKYSGETKY 60
DB      1 EVOLVSGGGLVOPGSLRLSCAVSGYSITSGYSMMWIRQAPGKLEWVASIKYSGETKY 60

QY      61 NPSVKGRITISRDSKNTFYLMNSLRABDTAVYYCARSGSHYFGHMFPAWVGQ 114
DB      61 NPSVKGRITISRDSKNTFYLMNSLRABDTAVYYCARSGSHYFGHMFPAWVGQ 114

RESULT 20
US-09-109-207C-23
```

; Sequence 23, Application US/09109207C
; Patent No. 6172213
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-1gE Antibodies and Method of Improving Polypeptide
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/109,207C
; PRIOR FILING DATE: 1998-06-30
; PRIORITY APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 23
; LENGTH: 248
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-248
; OTHER INFORMATION: sfv sequence derived from MAE11
US-09-109-207C-23

Query Match 100.0%; Score 623; DB 3; Length 248;
Best Local Similarity 100.0%; Pred. No. 2.6e-54;

Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVOPGGSRLRLSCAVSGYSITSGYSMMNIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVOPGGSRLRLSCAVSGYSITSGYSMMNIRQAPGKLEWVASIKYSGETKY 60
QY 61 NPSYKGRITTSRDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAVWGOG 114
DB 61 NPSYKGRITTSRDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAVWGOG 114

RESULT 21
US-09-296-005-23
; Sequence 23, Application US/09296005
; Patent No. 6290957
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-1gE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123C1R
; CURRENT APPLICATION NUMBER: US/09/296,005
; CURRENT FILING DATE: 1999-04-21
; EARLIER APPLICATION NUMBER: US 08/887,352
; EARLIER FILING DATE: 1997-07-02
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 23
; LENGTH: 248
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-248
; OTHER INFORMATION: sfv sequence derived from MAE11
US-09-296-005-23

Query Match 100.0%; Score 623; DB 3; Length 248;
Best Local Similarity 100.0%; Pred. No. 2.6e-54;

Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVOPGGSRLRLSCAVSGYSITSGYSMMNIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVOPGGSRLRLSCAVSGYSITSGYSMMNIRQAPGKLEWVASIKYSGETKY 60
QY 61 NPSYKGRITTSRDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAVWGOG 114
DB 61 NPSYKGRITTSRDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAVWGOG 114

RESULT 22
US-09-920-171-23
; Sequence 23, Application US/09920171

; Patent No. 6682735
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-1gE Antibodies (as amended)
; FILE REFERENCE: P1123C2US
; CURRENT APPLICATION NUMBER: US/09/920,171
; CURRENT FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 23
; LENGTH: 248
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: sfv sequence derived from MAE11
US-09-920-171-23

Query Match 100.0%; Score 623; DB 4; Length 248;
Best Local Similarity 100.0%; Pred. No. 2.6e-54;

Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVOPGGSRLRLSCAVSGYSITSGYSMMNIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVOPGGSRLRLSCAVSGYSITSGYSMMNIRQAPGKLEWVASIKYSGETKY 60
QY 61 NPSYKGRITTSRDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAVWGOG 114
DB 61 NPSYKGRITTSRDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAVWGOG 114

RESULT 23
US-09-716-028-23
; Sequence 23, Application US/09716028
; Patent No. 6723833
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-1gE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/716,028
; CURRENT FILING DATE: 2000-11-17
; PRIOR APPLICATION NUMBER: US 09/109,207
; PRIOR FILING DATE: 1998-06-30
; PRIORITY APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 23
; LENGTH: 248
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-248
; OTHER INFORMATION: sfv sequence derived from MAE11
US-09-716-028-23

Query Match 100.0%; Score 623; DB 4; Length 248;
Best Local Similarity 100.0%; Pred. No. 2.6e-54;

Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVOPGGSRLRLSCAVSGYSITSGYSMMNIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVOPGGSRLRLSCAVSGYSITSGYSMMNIRQAPGKLEWVASIKYSGETKY 60
QY 61 NPSYKGRITTSRDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAVWGOG 114
DB 61 NPSYKGRITTSRDSKNTFYLOMNSLRAPDTAVYYCARGSHYFGHMFPAVWGOG 114

RESULT 24
US-10-113-996-23
; Sequence 23, Application US/10113996
; Patent No. 6761889
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-1GE Antibodies
; FILE REFERENCE: P1123C3US
; CURRENT APPLICATION NUMBER: US/10/113,996
; CURRENT FILING DATE: 2002-04-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: US 09/920,171
; PRIOR FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 23
; LENGTH: 248
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: sfv sequence derived from MAE11
US-10-113-996-23
Query Match 100.0%; Score 623; DB 4; Length 248;
Best Local Similarity 100.0%; Pred. No. 2.6e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSMMNIRQAPGKGLWVASIKYSGETKY 60
Db 1 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSMMNIRQAPGKGLWVASIKYSGETKY 60
Qy 61 NPSYKGRITISRDSKNTFYIQNMSLRADTAAYYCARGSYHGHHFAVWGOG 114
Db 61 NPSYKGRITISRDSKNTFYIQNMSLRADTAAYYCARGSYHGHHFAVWGOG 114
RESULT 25
US-08-887-352B-18
; Sequence 18, Application US/08887352B
; Patent No. 5994511
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-1GE Antibodies and Method of
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 MB floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatIn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/887,352B
; FILING DATE: 03-Jul-1997
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Svoboda, Craig G.
; REGISTRATION NUMBER: 39,044
; REFERENCE/DOCKET NUMBER: P1123
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-1489

TELEFAX: 650/952-9881
; INFORMATION FOR SEQ ID NO: 18:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 451 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
US-08-887-352B-18
Query Match 100.0%; Score 623; DB 2; Length 451;
Best Local Similarity 100.0%; Pred. No. 5.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSMMNIRQAPGKGLWVASIKYSGETKY 60
Db 1 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSMMNIRQAPGKGLWVASIKYSGETKY 60
Qy 61 NPSYKGRITISRDSKNTFYIQNMSLRADTAAYYCARGSYHGHHFAVWGOG 114
Db 61 NPSYKGRITISRDSKNTFYIQNMSLRADTAAYYCARGSYHGHHFAVWGOG 114
RESULT 26
US-09-109-207C-18
; Sequence 18, Application US/09109207C
; Patent No. 6172213
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-1GE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/109,207C
; CURRENT FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 18
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-451
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-109-207C-18
Query Match 100.0%; Score 623; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 5.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSMMNIRQAPGKGLWVASIKYSGETKY 60
Db 1 EVOLVESGGGLVQPGSLRLSCAASGYSITSGYSMMNIRQAPGKGLWVASIKYSGETKY 60
Qy 61 NPSYKGRITISRDSKNTFYIQNMSLRADTAAYYCARGSYHGHHFAVWGOG 114
Db 61 NPSYKGRITISRDSKNTFYIQNMSLRADTAAYYCARGSYHGHHFAVWGOG 114
RESULT 27
US-09-282-505-2
; Sequence 2, Application US/09282505A
; Patent No. 6194551
; GENERAL INFORMATION:
; APPLICANT: Esche Ekinadese Idusogie et al.
; TITLE OF INVENTION: Polypeptide Variants
; FILE REFERENCE: P1266R1
; CURRENT APPLICATION NUMBER: US/09/282,505A
; CURRENT FILING DATE: 1999-03-31
; NUMBER OF SEQ ID NOS: 2
; SEQ ID NO 2
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:

NAME/KEY: Artificial Sequence
LOCATION: 1-451
OTHER INFORMATION: Sequence is completely synthesized
Patent No. 6194551
US-09-282-505-2

Query Match 100.0%; Score 623; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 5.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVPGGSLRLSCAVGYSTISGYSWMNIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAVGYSTISGYSWMNIRQAPGKLEWVASIKYSGETKY 60

QY 61 NPSYKGRITISRDSKNTFYIQNNSLRADTAIVYYCARGSHYFGHMFPAWGOG 114
DB 61 NPSYKGRITISRDSKNTFYIQNNSLRADTAIVYYCARGSHYFGHMFPAWGOG 114

RESULT 28

US-09-054-255-2
Sequence 2, Application US/09054255
Patent No. 6242195
GENERAL INFORMATION:
APPLICANT: Eschoe Ekinaduse Idusogie et al.
TITLE OF INVENTION: Polypeptide Variants
FILE REFERENCE: P1266
CURRENT APPLICATION NUMBER: US/09/054,255
CURRENT FILING DATE: 1998-04-02
NUMBER OF SEQ ID NOS: 2
SEQ ID NO 2
LENGTH: 451
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: E27 anti-IgB antibody heavy chain
US-09-054-255-2

Query Match 100.0%; Score 623; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 5.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVPGGSLRLSCAVGYSTISGYSWMNIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAVGYSTISGYSWMNIRQAPGKLEWVASIKYSGETKY 60

QY 61 NPSYKGRITISRDSKNTFYIQNNSLRADTAIVYYCARGSHYFGHMFPAWGOG 114
DB 61 NPSYKGRITISRDSKNTFYIQNNSLRADTAIVYYCARGSHYFGHMFPAWGOG 114

RESULT 29

US-09-296-005-18
Sequence 18, Application US/09296005
Patent No. 6290957
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardiou, John Lowe
TITLE OF INVENTION: Improved Anti-IgB Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P112301
CURRENT APPLICATION NUMBER: US/09/296,005
CURRENT FILING DATE: 1999-04-21
EARLIER APPLICATION NUMBER: US 08/887,352
EARLIER FILING DATE: 1997-07-02
NUMBER OF SEQ ID NOS: 26
SEQ ID NO 18
LENGTH: 451
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
NAME/KEY: Artificial
LOCATION: 1-451
OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-296-005-18

Query Match 100.0%; Score 623; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 5.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVPGGSLRLSCAVGYSTISGYSWMNIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAVGYSTISGYSWMNIRQAPGKLEWVASIKYSGETKY 60

QY 61 NPSYKGRITISRDSKNTFYIQNNSLRADTAIVYYCARGSHYFGHMFPAWGOG 114
DB 61 NPSYKGRITISRDSKNTFYIQNNSLRADTAIVYYCARGSHYFGHMFPAWGOG 114

RESULT 30

US-09-282-846-2
Sequence 2, Application US/09282846
Patent No. 6528624
GENERAL INFORMATION:
APPLICANT: Eschoe Ekinaduse Idusogie et al.
TITLE OF INVENTION: Polypeptide Variants
FILE REFERENCE: P1266R2
CURRENT APPLICATION NUMBER: US/09/282,846
CURRENT FILING DATE: 1999-03-31
NUMBER OF SEQ ID NOS: 2
SEQ ID NO 2
LENGTH: 451
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
NAME/KEY: Artificial Sequence
LOCATION: 1-451
OTHER INFORMATION: Sequence is completely synthesized
Patent No. 6528624
US-09-282-846-2

Query Match 100.0%; Score 623; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 5.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVPGGSLRLSCAVGYSTISGYSWMNIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAVGYSTISGYSWMNIRQAPGKLEWVASIKYSGETKY 60

QY 61 NPSYKGRITISRDSKNTFYIQNNSLRADTAIVYYCARGSHYFGHMFPAWGOG 114
DB 61 NPSYKGRITISRDSKNTFYIQNNSLRADTAIVYYCARGSHYFGHMFPAWGOG 114

RESULT 31

US-09-680-145-2
Sequence 2, Application US/09680145
Patent No. 6538124
GENERAL INFORMATION:
APPLICANT: Eschoe Ekinaduse Idusogie et al.
TITLE OF INVENTION: Polypeptide Variants
FILE REFERENCE: P1266R1
CURRENT APPLICATION NUMBER: US/09/680,145
CURRENT FILING DATE: 2000-10-03
PRIOR APPLICATION NUMBER: 09/282,505
PRIOR FILING DATE: 1999-03-13
NUMBER OF SEQ ID NOS: 2
SEQ ID NO 2
LENGTH: 451
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
NAME/KEY: Artificial Sequence
LOCATION: 1-451
OTHER INFORMATION: Sequence is completely synthesized
Patent No. 6538124
US-09-680-145-2

Query Match 100.0%; Score 623; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 5.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVSGGGLVOPGSLRLSCAVSGYISGYSWMNIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVSGGGLVOPGSLRLSCAVSGYISGYSWMNIRQAPGKLEWVASIKYSGETKY 60

QY 61 NPSVKGRITISRDSKNTFYLMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114
DB 61 NPSVKGRITISRDSKNTFYLMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114

RESULT 32
US-09-920-171-18
; Sequence 18, Application US/09920171
; Patent No. 6682735
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
; FILE REFERENCE: P1123C2US
; CURRENT APPLICATION NUMBER: US/09/920,171
; CURRENT FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 18
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-920-171-18

Query Match 100.0%; Score 623; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 5.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVSGGGLVOPGSLRLSCAVSGYISGYSWMNIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVSGGGLVOPGSLRLSCAVSGYISGYSWMNIRQAPGKLEWVASIKYSGETKY 60

QY 61 NPSVKGRITISRDSKNTFYLMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114
DB 61 NPSVKGRITISRDSKNTFYLMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114

RESULT 33
US-09-716-028-18
; Sequence 18, Application US/09716028
; Patent No. 6723833
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/716,028
; CURRENT FILING DATE: 2000-11-17
; PRIOR APPLICATION NUMBER: US 09/109,207
; PRIOR FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 18
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial

; LOCATION: 1-451
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-716-028-18

Query Match 100.0%; Score 623; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 5.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVSGGGLVOPGSLRLSCAVSGYISGYSWMNIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVSGGGLVOPGSLRLSCAVSGYISGYSWMNIRQAPGKLEWVASIKYSGETKY 60

QY 61 NPSVKGRITISRDSKNTFYLMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114
DB 61 NPSVKGRITISRDSKNTFYLMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114

RESULT 34
US-09-483-588-2
; Sequence 2, Application US/09483588
; Patent No. 6737056
; GENERAL INFORMATION:
; APPLICANT: Leonard Presta
; TITLE OF INVENTION: Polypeptide Variants with Altered Effector Function
; FILE REFERENCE: P1726R1
; CURRENT APPLICATION NUMBER: US/09/483,588
; CURRENT FILING DATE: 2000-01-14
; EARLIER APPLICATION NUMBER: US 60/116,023
; EARLIER FILING DATE: 1999-01-15
; NUMBER OF SEQ ID NOS: 11
; SEQ ID NO 2
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: Artificial Sequence
; LOCATION: 1-451
; OTHER INFORMATION: Sequence is completely synthesized
; Patent No. 6737056
US-09-483-588-2

Query Match 100.0%; Score 623; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 5.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVSGGGLVOPGSLRLSCAVSGYISGYSWMNIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVOLVSGGGLVOPGSLRLSCAVSGYISGYSWMNIRQAPGKLEWVASIKYSGETKY 60

QY 61 NPSVKGRITISRDSKNTFYLMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114
DB 61 NPSVKGRITISRDSKNTFYLMNSLRAPDTAVYYCARGSHYFGHMFPAWVGQ 114

RESULT 35
US-10-113-996-18
; Sequence 18, Application US/10113996
; Patent No. 6761889
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies
; FILE REFERENCE: P1123C3US
; CURRENT APPLICATION NUMBER: US/10/113,996
; CURRENT FILING DATE: 2002-04-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: US 09/920,171
; PRIOR FILING DATE: 2001-08-01

; NUMBER OF SEQ ID NOS: 44
 ; SEQ ID NO 18
 ; LENGTH: 451
 ; TYPE: PRT
 ; ORGANISM: Artificial Sequence
 ; FEATURE:
 ; OTHER INFORMATION: Heavy chain sequence derived from MAb11
 US-10-113-996-18

Query Match 100.0%; Score 623; DB 4; Length 451;
 Best Local Similarity 100.0%; Pred. No. 5.1e-54;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY	1	EVQLVESGGGIWPGQSLRLS	CAVSGYSITSGYGMN	IRQAPGKLEWVASIKYSGETKY	60
Db	1	EVQLVESGGGIWPGQSLRLS	CAVSGYSITSGYGMN	IRQAPGKLEWVASIKYSGETKY	60
QY	61	NPSYKGRITISRDDSKNTFY	LQNNSLRAEDTAVYYCAR	GSHYFGHWHFPAWVGQG	114
Db	61	NPSYKGRITISRDDSKNTFY	LQNNSLRAEDTAVYYCAR	GSHYFGHWHFPAWVGQG	114

Search completed: June 3, 2005, 12:45:37
 Job time : 23 secs

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DB 1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRAPGKGLFWASIKYSGETKY 60
QY 61 NPSVKGRITTSRSDSKNTFTYLOMNSLRABDTAVYYCARSGSHYFGHMFPAWVGOG 114
DB 61 NPSVKGRITTSRSDSKNTFTYLOMNSLRABDTAVYYCARSGSHYFGHMFPAWVGOG 114

RESULT 4
ID AAW95666 standard; protein; 229 AA.
XX
AC AAW95666;
XX
XX 08-JUN-1999 (first entry)
XX
XX Mus musculus anti-IgE e27 variable heavy chain Fab fragment.
XX
XX Variable; IgE; Fab fragment; antibody; anti-IgE; reduction; prevention;
XX histamine; production; hypersensitivity; allergen; anaphylaxis;
XX atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay fever;
XX eczema; anaphylactic shock; urticaria; heavy chain.
XX
XX Mus musculus.
XX
XX MO9901556-A2.
XX
XX 14-JAN-1999.
XX
XX 30-JUN-1998; 98WO-US013410.
XX
XX 02-JUL-1997; 97US-00887352.
XX
XX (GETH) GENENTECH INC.
XX
XX Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX
XX WPI; 1999-106057/09.
XX
XX Improving affinity of polypeptides, particularly anti-IgE antibodies - by
XX identifying aspartyl residues which undergo isomerization and
XX substituting alternative residues and screening for affinity against the
XX target.
XX
XX PS Disclosure; Page 101-102; 123pp; English.
XX
XX The sequence is that of the variable heavy chain Fab fragment of e27. It
XX was used as part of a method to improve the affinity of anti-IgE
XX antibodies such as e26 and e27. The e26 and e27 antibodies can be used
XX for reducing or preventing IgE mediated production of histamine in a
XX mammal. They can be used for treating a disorder mediated by IgE such as
XX hypersensitivity, atopic allergy, asthma, allergic rhinitis,
XX conjunctivitis, hay fever, eczema, anaphylactic shock and urticaria. The
XX antibodies can also be used for affinity purification, detection and
XX diagnosis
XX
XX Sequence 229 AA:
XX
XX Query Match 100.0%; Score 623; DB 2; Length 229;
XX Best Local Similarity 100.0%; Pred. No. 1.1e-50;
XX Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRAPGKGLFWASIKYSGETKY 60
DB 1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRAPGKGLFWASIKYSGETKY 60
QY 61 NPSVKGRITTSRSDSKNTFTYLOMNSLRABDTAVYYCARSGSHYFGHMFPAWVGOG 114
DB 61 NPSVKGRITTSRSDSKNTFTYLOMNSLRABDTAVYYCARSGSHYFGHMFPAWVGOG 114

RESULT 5
ID AAB76955
XX
AC AAB76955;
XX
XX 17-APR-2001 (first entry)
XX
XX Variable heavy chain Fab fragment of e27 SEQ ID 21.
XX
XX Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological;
XX antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis;
XX conjunctivitis; eczema; urticaria; food allergy.
XX
XX Synthetic.
XX
XX US6172213-B1.
XX
XX 09-JAN-2001.
XX
XX 30-JUN-1998; 98US-00109207.
XX
XX 02-JUL-1997; 97US-0051554P.
XX
XX (GETH) GENENTECH INC.
XX
XX Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX
XX WPI; 2001-122353/13.
XX
XX New nucleic acid encoding anti-immunoglobulin E antibody with improved
XX properties, produced by substituting aspartyl residues in unimproved
XX immunoglobulin E prone to isomerization by other residues by affinity
XX maturation with phage display.
XX
XX Claim 3, Fig 13; 87pp; English.
XX
XX This invention relates to a nucleotide sequence encoding an antibody with
XX improved anti-IgE antibody activity. The antibody has improved action due
XX to a process comprising, a) identifying aspartyl residues prone to
XX isomerization in unimproved anti-IgE (immunoglobulin E) antibody; b)
XX substituting alternative residues to create candidate molecules; and c)
XX selecting those candidate molecules which display affinity against the
XX target molecule. Use of the antibody results in antiasthmatic;
XX antiallergic; ophthalmological; dermatological and antiinflammatory
XX activity. The antibodies are useful for treating IgE-mediated disorders
XX such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
XX food allergies. The mutant antibodies produced by the above mentioned
XX nucleic acids may also be used as affinity purification agents and in
XX diagnostic assays for detecting the expression of an antigen of interest
XX in specific cell, tissues or serum. Amino acid sequences AAB76936-
XX AAB76960 represent fragments of anti-IgE antibodies of the invention.
XX Polynucleotide sequence AAF69253 represents an expression plasmid used in
XX the course of the invention, and oligonucleotides AAF69254 - AAF69271 are
XX used in the generation of affinity improved anti-IgE antibodies
XX
XX Sequence 229 AA:
XX
XX Query Match 100.0%; Score 623; DB 4; Length 229;
XX Best Local Similarity 100.0%; Pred. No. 1.1e-50;
XX Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRAPGKGLFWASIKYSGETKY 60
DB 1 EVOLVSGGGLVPGGSLRLSCAVSGYSITSGYSNMWIRAPGKGLFWASIKYSGETKY 60
QY 61 NPSVKGRITTSRSDSKNTFTYLOMNSLRABDTAVYYCARSGSHYFGHMFPAWVGOG 114
DB 61 NPSVKGRITTSRSDSKNTFTYLOMNSLRABDTAVYYCARSGSHYFGHMFPAWVGOG 114

RESULT 6
ID ADN07042 standard; protein; 229 AA.
XX
XX ADN07042
XX

AC ADN07042;
XX
XX 01-JUL-2004 (first entry)
XX
XX
DE Anti-IGe antibody e27 variable heavy (VH) Fab fragment.
XX
XX Anti-IGe antibody; immunosuppressive agent; Ige-mediated disorder;
KW therapy; atopic allergy; anaphylactic hypersensitivity; asthma;
KW allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy;
KW variable heavy chain; VH.
XX
OS Unidentified.
XX
XX US6723833-B1.
XX
XX 20-APR-2004.
XX
XX 17-NOV-2000; 2000US-00716028.
XX
XX 02-JUL-1997; 97US-0051554P.
XX
XX 30-JUN-1998; 98US-00109207.
XX
XX (GETH) GENENTECH INC.
XX
XX Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX
XX WPI; 2004-326922/30.
XX
XX
XX New composition of an improved anti-IGe antibody or Ige binding fragment,
PT useful for treating Ige-mediated diseases, e.g. atopic allergy, asthma,
PT conjunctivitis, eczema, urticaria or food allergies.
XX
XX
XX Claim 8; SEQ ID NO 21; 89pp; English.
XX
XX
XX The invention relates to therapeutic compositions comprising anti-IGe
CC antibody or Ige binding fragment in combination with an adjunct
CC immunosuppressive agent. The composition is useful for treating Ige-
CC mediated disorders. The disorders include atopic allergy associated with
CC anaphylactic hypersensitivity and asthma, allergic rhinitis and
CC conjunctivitis, eczema, urticaria and food allergies. The present
CC sequence is an anti-IGe antibody variable heavy chain (VH) Fab fragment.
XX
SQ Sequence 229 AA;
Query Match 100.0%; Score 623; DB 8; Length 229;
Best Local Similarity 100.0%; Pred. No. 1.1e-50;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVQLVDSGGGLVQPGGSLRLSCAASGYSITSGYSMMWIRQAPGKGLEWVASIKYSGETKY 60
DB 1 EVQLVDSGGGLVQPGGSLRLSCAASGYSITSGYSMMWIRQAPGKGLEWVASIKYSGETKY 60
QY 61 NPSVKRITITSRDDSKNTFTYLOMNSLRADPTAVYYCARSGSHYFGHMFVWGQ 114
DB 61 NPSVKRITITSRDDSKNTFTYLOMNSLRADPTAVYYCARSGSHYFGHMFVWGQ 114
RESULT 7
ID AAM95671
AAW95671 standard; protein; 233 AA.
AC AAW95671;
XX
XX 08-JUN-1999 (first entry)
XX
XX Mus musculus anti-IGe e27 variable heavy chain F(ab)'2 fragment.
XX
XX Variable heavy chain; Ige; antibody; anti-IGe; reduction; prevention;
KW histamine; production; hypersensitivity; allergen; anaphylaxis;
KW atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay fever;
KW eczema; anaphylactic shock; urticaria; F(ab)'2 fragment.
XX
OS Mus musculus.

XX
XX WO9901556-A2.
XX
XX 14-JAN-1999.
XX
XX 30-JUN-1998; 98WO-US013410.
XX
XX 02-JUL-1997; 97US-00887352.
XX
XX (GETH) GENENTECH INC.
XX
XX Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX
XX WPI; 1999-106057/09.
XX
XX
XX Improving affinity of polypeptides, particularly anti-IGe antibodies - by
PT identifying aspartyl residues which undergo isomerisation and
PT substituting alternative residues and screening for affinity against the
PT target.
XX
XX Disclosure; Page 106; 129pp; English.
XX
XX The sequence is that of the variable heavy chain F(ab)'2 fragment of e27.
CC It was used as part of a method to improve the affinity of anti-IGe
CC antibodies such as e26 and e27. The e26 and e27 antibodies can be used
CC for reducing or preventing Ige mediated production of histamine in a
CC mammal. They can be used for treating a disorder mediated by Ige such as
CC hypersensitivity, atopic allergy, asthma, allergic rhinitis,
CC conjunctivitis, hay fever, eczema, anaphylactic shock and urticaria. The
CC antibodies can also be used for affinity purification, detection and
CC diagnosis
XX
SQ Sequence 233 AA;
Query Match 100.0%; Score 623; DB 2; Length 233;
Best Local Similarity 100.0%; Pred. No. 1.2e-50;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVQLVDSGGGLVQPGGSLRLSCAASGYSITSGYSMMWIRQAPGKGLEWVASIKYSGETKY 60
DB 1 EVQLVDSGGGLVQPGGSLRLSCAASGYSITSGYSMMWIRQAPGKGLEWVASIKYSGETKY 60
QY 61 NPSVKRITITSRDDSKNTFTYLOMNSLRADPTAVYYCARSGSHYFGHMFVWGQ 114
DB 61 NPSVKRITITSRDDSKNTFTYLOMNSLRADPTAVYYCARSGSHYFGHMFVWGQ 114
RESULT 8
ID AAB76960
AAB76960 standard; protein; 233 AA.
AC AAB76960;
XX
XX 17-APR-2001 (first entry)
XX
XX Variable light chain F(ab)'2 fragment of e27 SEQ ID 26.
XX
XX Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological;
KW antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis;
KW conjunctivitis; eczema; urticaria; food allergy.
XX
XX Synthetic.
XX
XX US6172213-B1.
XX
XX 09-JAN-2001.
XX
XX 30-JUN-1998; 98US-00109207.
XX
XX 02-JUL-1997; 97US-0051554P.
XX
XX (GETH) GENENTECH INC.

PI Lowman HB, Presta LG, Jardieu PM, Lowe J;
 XX WPI; 2001-122353/13.
 XX
 PT New nucleic acid encoding anti-immunoglobulin E antibody with improved
 PT properties, produced by substituting aspartyl residues in unimproved
 PT immunoglobulin E prone to isomerization by other residues by affinity
 PT maturation with phage display.
 XX
 PS Claim 3; Fig 15; 87pp; English.
 XX
 CC This invention relates to a nucleotide sequence encoding an antibody with
 CC improved anti-IgE antibody activity. The antibody has improved action due
 CC to a process comprising, a) identifying aspartyl residues prone to
 CC isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b)
 CC substituting alternative residues to create candidate molecules; and c)
 CC selecting those candidate molecules which display affinity against the
 CC target molecule. Use of the antibody results in antiasthmatic;
 CC anti-allergic; ophthalmological; dermatological and anti-inflammatory
 CC activity. The antibodies are useful for treating IgE-mediated disorders
 CC such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
 CC food allergies. The mutant antibodies produced by the above mentioned
 CC nucleic acids may also be used as affinity purification agents and in
 CC diagnostic assays for detecting the expression of an antigen of interest
 CC in specific cell, tissues or serum. Amino acid sequences AAB76936-
 CC AAB76960 represent fragments of anti-IgE antibodies of the invention.
 CC Polynucleotide sequence AAF69253 represents an expression plasmid used in
 CC the course of the invention, and oligonucleotides AAF69254 - AAF69271 are
 CC used in the generation of affinity improved anti-IgE antibodies
 CC
 SO Sequence 233 AA;
 Query Match 100.0%; Score 623; DB 4; Length 233;
 Best Local Similarity 100.0%; Pred. No. 1.2e-50;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EVOLVESGGGLVOPGSLRLSCAASGYSITSGYSMMNIRQAPGKGLMVAISIKTSGETKY 60
 DB 1 EVOLVESGGGLVOPGSLRLSCAASGYSITSGYSMMNIRQAPGKGLMVAISIKTSGETKY 60
 QY 61 NPSYKGRITISRDSKNTFTYLNMSLRADPTAVYYCARGSHYFGHMFPAWVGQ 114
 DB 61 NPSYKGRITISRDSKNTFTYLNMSLRADPTAVYYCARGSHYFGHMFPAWVGQ 114
 RESULT 9
 ID ADN07047 standard; protein; 233 AA.
 AC ADN07047;
 XX
 DT 01-JUL-2004 (first entry)
 XX
 DE Anti-IgE antibody e27 variable heavy (VH) F(ab)' 2 fragment.
 XX
 KW Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder;
 KW therapy; atopic allergy; anaphylactic hypersensitivity; asthma;
 KW allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy;
 KW variable heavy chain; VH.
 XX
 OS Unidentified.
 XX
 PN US6723833-B1.
 XX
 PD 20-APR-2004.
 XX
 PF 17-NOV-2000; 2000US-00716028.
 XX
 PR 02-JUL-1997; 97US-0051554P.
 PR 30-JUN-1998; 98US-00109207.
 XX
 PA (GETH) GENENTECH INC.
 XX

PI Lowman HB, Presta LG, Jardieu PM, Lowe J;
 XX WPI; 2004-326922/30.
 XX
 PT New composition of an improved anti-IgE antibody or IgE binding fragment,
 PT useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma,
 PT conjunctivitis, eczema, urticaria or food allergies.
 XX
 PS Claim 8; SEQ ID NO 26; 89pp; English.
 XX
 CC The invention relates to therapeutic compositions comprising anti-IgE
 CC antibody or IgE binding fragment in combination with an adjunct
 CC immunosuppressive agent. The composition is useful for treating IgE-
 CC mediated disorders. The disorders include atopic allergy associated with
 CC anaphylactic hypersensitivity and asthma, allergic rhinitis and
 CC conjunctivitis, eczema, urticaria and food allergies. The present
 CC sequence is an anti-IgE antibody variable heavy chain (VH) F(ab)' 2
 CC fragment.
 CC
 SO Sequence 233 AA;
 Query Match 100.0%; Score 623; DB 8; Length 233;
 Best Local Similarity 100.0%; Pred. No. 1.2e-50;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EVOLVESGGGLVOPGSLRLSCAASGYSITSGYSMMNIRQAPGKGLMVAISIKTSGETKY 60
 DB 1 EVOLVESGGGLVOPGSLRLSCAASGYSITSGYSMMNIRQAPGKGLMVAISIKTSGETKY 60
 QY 61 NPSYKGRITISRDSKNTFTYLNMSLRADPTAVYYCARGSHYFGHMFPAWVGQ 114
 DB 61 NPSYKGRITISRDSKNTFTYLNMSLRADPTAVYYCARGSHYFGHMFPAWVGQ 114
 RESULT 10
 ID AAM95668 standard; protein; 248 AA.
 AC AAM95668;
 XX
 DT 08-JUN-1999 (first entry)
 XX
 DE Mus musculus anti-IgE e27 sfv fragment.
 XX
 KW sfv fragment; IgE; antibody; anti-IgE; reduction; prevention; histamine;
 KW production; hypersensitivity; allergen; anaphylaxis; atopic allergy;
 KW asthma; allergic rhinitis; conjunctivitis; hay fever; eczema;
 KW anaphylactic shock; urticaria.
 XX
 OS Mus musculus.
 XX
 PN W09901556-A2.
 XX
 PD 14-JAN-1999.
 XX
 PF 30-JUN-1998; 98WC-US013410.
 XX
 PR 02-JUL-1997; 97US-00887352.
 XX
 PA (GETH) GENENTECH INC.
 XX
 PI Lowman HB, Presta LG, Jardieu PM, Lowe J;
 XX WPI; 1999-106057/09.
 XX
 PT Improving affinity of polypeptides, particularly anti-IgE antibodies - by
 PT identifying aspartyl residues which undergo isomerisation and
 PT substituting alternative residues and screening for affinity against the
 PT target.
 XX
 PS Disclosure; Page 103-104; 129pp; English.
 XX
 CC The sequence is that of the e27 sfv fragment. It was used as part of a

CC method to improve the affinity of anti-IgE antibodies such as e26 and
CC e27. The e26 and e27 antibodies can be used for reducing or preventing
CC IgE mediated production of histamine in a mammal. They can be used for
CC treating a disorder mediated by IgE such as hypersensitivity, atopic
CC allergy, asthma, allergic rhinitis, conjunctivitis, hay fever, eczema,
CC anaphylactic shock and urticaria. The antibodies can also be used for
CC affinity purification, detection and diagnosis

XX Sequence 248 AA;

Query Match 100.0%; Score 623; DB 2; Length 248;
Best Local Similarity 100.0%; Pred. No. 1.2e-50;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVQLVSGGGLVQPGGSLRLSCAASGYSITSGYSWMWIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVQLVSGGGLVQPGGSLRLSCAASGYSITSGYSWMWIRQAPGKLEWVASIKYSGETKY 60
QY 61 NPSVKGRITISRDSKNTFTYLGWNSLRADTAIVYCARGSHYRGHMFPAWVGQ 114
DB 61 NPSVKGRITISRDSKNTFTYLGWNSLRADTAIVYCARGSHYRGHMFPAWVGQ 114

RESULT 11

ID AAB76957 standard; protein; 248 AA.

AC AAB76957;

DT 17-APR-2001 (first entry)

DE SFV fragment of e27 SEQ ID 23.

XX Antibody; antiaesthetic; antiallergic; ophthalmological; dermatological;
KM antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis;
KW conjunctivitis; eczema; urticaria; food allergy.

OS Synthetic.

PN US6172213-B1.

XX 09-JAN-2001.

PF 30-JUN-1998; 98US-00109207.

PR 02-JUL-1997; 97US-0051554P.

XX (GETH) GENENTECH INC.

PI Lowman HB, Presta LG, Jardieu PM, Lowe J;

DR WPI; 2001-122353/13.

XX New nucleic acid encoding anti-immunoglobulin E antibody with improved
PT properties, produced by substituting aspartyl residues in unimproved
PT immunoglobulin E prone to isomerization by other residues by affinity
PT maturation with phage display.

XX Claim 3; Fig 14; 87pp; English.

XX This invention relates to a nucleotide sequence encoding an antibody with
CC improved anti-IgE antibody activity. The antibody has improved action due
CC to a process comprising, a) identifying aspartyl residues prone to
CC isomerization in unimproved anti-IgE (immunoglobulin E) antibody; b)
CC substituting alternative residues to create candidate molecules, and c)
CC selecting those candidate molecules which display affinity against the
CC target molecule. Use of the antibody results in antiaesthetic;
CC antiallergic; ophthalmological; dermatological and antiinflammatory
CC activity. The antibodies are useful for treating IgE-mediated disorders
CC such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
CC food allergies. The mutant antibodies produced by the above mentioned
CC nucleic acids may also be used as affinity purification agents and in
CC diagnostic assays for detecting the expression of an antigen of interest

CC in specific cell, tissues or serum. Amino acid sequences AAB76936-
CC AAB76960 represent fragments of anti-IgE antibodies of the invention.
CC Polynucleotide sequence AAF69253 represents an expression plasmid used in
CC the course of the invention, and oligonucleotides AAF69254 - AAF69271 are
CC used in the generation of affinity improved anti-IgE antibodies

XX Sequence 248 AA;

Query Match 100.0%; Score 623; DB 4; Length 248;
Best Local Similarity 100.0%; Pred. No. 1.2e-50;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVQLVSGGGLVQPGGSLRLSCAASGYSITSGYSWMWIRQAPGKLEWVASIKYSGETKY 60
DB 1 EVQLVSGGGLVQPGGSLRLSCAASGYSITSGYSWMWIRQAPGKLEWVASIKYSGETKY 60
QY 61 NPSVKGRITISRDSKNTFTYLGWNSLRADTAIVYCARGSHYRGHMFPAWVGQ 114
DB 61 NPSVKGRITISRDSKNTFTYLGWNSLRADTAIVYCARGSHYRGHMFPAWVGQ 114

RESULT 12

ID ADN07044 standard; protein; 248 AA.

AC ADN07044;

DT 01-JUL-2004 (first entry)

DE Anti-IgE antibody e27 sfv fragment.

XX Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder;
KM therapy; atopic allergy; anaphylactic hypersensitivity; asthma;
KW allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy.

OS Unidentified.

PN US6723833-B1.

PD 20-APR-2004.

PF 17-NOV-2000; 2000US-00716028.

PR 02-JUL-1997; 97US-0051554P.

PR 30-JUN-1998; 98US-00109207.

XX (GETH) GENENTECH INC.

PI Lowman HB, Presta LG, Jardieu PM, Lowe J;

DR WPI; 2004-326922/30.

XX New composition of an improved anti-IgE antibody or IgE binding fragment,
PT useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma,
PT conjunctivitis, eczema, urticaria or food allergies.

XX Claim 8; SEQ ID NO 23; 89pp; English.

XX The invention relates to therapeutic compositions comprising anti-IgE
CC antibody or IgE binding fragment in combination with an adjuvant
CC immunosuppressive agent. The composition is useful for treating IgE-
CC mediated disorders. The disorders include atopic allergy associated with
CC anaphylactic hypersensitivity and asthma, allergic rhinitis and
CC conjunctivitis, eczema, urticaria and food allergies. The present
CC sequence is an anti-IgE antibody sfv fragment.

XX Sequence 248 AA;

Query Match 100.0%; Score 623; DB 8; Length 248;
Best Local Similarity 100.0%; Pred. No. 1.2e-50;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVQLVSGGGLVQPGGSLRLSCAASGYSITSGYSWMWIRQAPGKLEWVASIKYSGETKY 60

Db 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASIKYSGETKY 60
 QY 61 NPSYKGRITTSRDSSKNTFTYLNQNSLRAPDPAVYVCARGSHYFGHMHPAWVGOG 114
 Db 61 NPSYKGRITTSRDSSKNTFTYLNQNSLRAPDPAVYVCARGSHYFGHMHPAWVGOG 114

RESULT 13
 AAW95663
 ID AAW95663 standard; protein; 451 AA.

AC AAW95663;
 XX 08-JUN-1999 (first entry)
 DE Mus musculus anti-IgE e27 full length heavy chain.
 XX Heavy chain; IgE; antibody; anti-IgE; reduction; prevention; histamine;
 KM production; hypersensitivity; allergen; anaphylaxis; atopic allergy;
 KM asthma; allergic rhinitis; conjunctivitis; hay fever; eczema;
 KM anaphylactic shock; urticaria.
 XX Mus musculus.
 XX MO9901556-A2.
 XX 14-JAN-1999.
 XX 30-JUN-1998; 98WO-US013410.
 XX 02-JUL-1997; 97US-00887352.
 XX (GETH) GENENTECH INC.
 XX Lowman HB, Presta LG, Jardieu PM, Lowe J;
 DR WPI; 1999-106057/09.
 XX
 PT Improving affinity of polypeptides, particularly anti-IgE antibodies - by
 PT identifying aspartyl residues which undergo isomerisation and
 PT substituting alternative residues and screening for affinity against the
 PT target.
 XX
 PS Disclosure; Page 97-99; 129pp; English.
 XX
 CC The sequence is that of the full length heavy chain of e27. It was used
 CC as part of a method to improve the affinity of anti-IgE antibodies such
 CC as e26 and e27. The e26 and e27 antibodies can be used for reducing or
 CC preventing IgE mediated production of histamine in a mammal. They can be
 CC used for treating a disorder mediated by IgE such as hypersensitivity,
 CC atopic allergy, asthma, allergic rhinitis, conjunctivitis, hay fever,
 CC eczema, anaphylactic shock and urticaria. The antibodies can also be used
 CC for affinity purification, detection and diagnosis
 CC
 SO Sequence 451 AA;

Query Match 100.0%; Score 623; DB 2; Length 451;
 Best Local Similarity 100.0%; Pred. No. 2.4e-50;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASIKYSGETKY 60
 Db 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASIKYSGETKY 60
 QY 61 NPSYKGRITTSRDSSKNTFTYLNQNSLRAPDPAVYVCARGSHYFGHMHPAWVGOG 114
 Db 61 NPSYKGRITTSRDSSKNTFTYLNQNSLRAPDPAVYVCARGSHYFGHMHPAWVGOG 114

RESULT 14
 AAY50031
 ID AAY50031 standard; protein; 451 AA.

XX AAY50031;
 AC 19-JAN-2000 (first entry)
 DE Human E27 anti-IgE antibody heavy chain.
 XX
 DE Immunoglobulin E; IgE; antibody; vascular endothelial growth factor;
 KM VEGF; chimeric; IgG; assay; Fc gamma receptor; low affinity; hexamer;
 KM complex; cross-linked; enzyme-linked immunosorbent assay; ELISA;
 KM heavy chain.
 XX
 XX Synthetic.
 OS Homo sapiens.
 XX
 XX MO9951642-A1.
 XX 14-OCT-1999.
 XX 31-MAR-1999; 99WO-US006858.
 XX 02-APR-1998; 98US-00054255.
 XX 15-JAN-1999; 99US-0116100P.
 XX (GETH) GENENTECH INC.

Idusogie EB, Mulkerin MG, Presta LG, Shields RL;
 DR WPI; 1999-620197/53.
 XX
 PT Antibody variants useful in receptor binding assays and in therapy of
 PT conditions needing treatment.
 XX

Example 1; Fig 4B; 69pp; English.
 XX
 CC This sequence represents human E27 anti-IgE (immunoglobulin E) antibody
 CC heavy chain, which, along with the E27 light chain (AAY50030), comprises
 CC the E27 anti-IgE antibody. The E27 antibody binds the constant regions of
 CC IgE, and when mixed with IgE in an equimolar ratio, forms a stable
 CC hexamer consisting of three E27 molecules and 3 IgE molecules. This
 CC complex-forming ability can be utilised in an assay for the binding of
 CC IgG to Fc gamma receptors Fc-gamma-1IIa, Fc-gamma-1Ib and Fc-gamma-1II, which have IgG affinities in the micromolar range and so cannot be
 CC assayed via a standard ELISA (enzyme-linked immunosorbent assay)
 CC protocol. The low affinity receptor binding assay uses E27 and a
 CC recombinant chimeric form of IgE, consisting of a human IgE Fc region and
 CC the Fab regions of an anti-VEGF (vascular endothelial growth factor)
 CC antibody, which binds two VEGF molecules per mole of anti-VEGF chimeric
 CC IgE. When recombinant human VEGF is added at at 2:1 molar ratio to the
 CC IgE:E27 hexamer complexes, the hexamers are linked into larger complexes
 CC via IgE Fab:VEGF interactions. The E27 component of this complex binds to
 CC the Fc-gamma-1IIa, Fc-gamma-1Ib and Fc-gamma-1II alpha subunits to permit
 CC detection via ELISA
 CC
 SO Sequence 451 AA;

Query Match 100.0%; Score 623; DB 2; Length 451;
 Best Local Similarity 100.0%; Pred. No. 2.4e-50;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASIKYSGETKY 60
 Db 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMNIRQAPGKLEWVASIKYSGETKY 60
 QY 61 NPSYKGRITTSRDSSKNTFTYLNQNSLRAPDPAVYVCARGSHYFGHMHPAWVGOG 114
 Db 61 NPSYKGRITTSRDSSKNTFTYLNQNSLRAPDPAVYVCARGSHYFGHMHPAWVGOG 114

RESULT 15
 AAB07473
 ID AAB07473 standard; protein; 451 AA.

AC AAB07473;
XX
XX 20-OCT-2000 (first entry)
XX
XX
DE Amino acid sequence of E27 and anti-IgE antibody heavy chain.
XX
XX anti-IgE antibody; heavy chain; Fc region; effector function; cancer;
XX allergy; asthma; LFA-1-mediated disorder; tumour; cancer.
XX
XX Synthetic.
XX
XX WO2000042072-A2.
XX
XX 20-JUL-2000.
XX
XX 14-JAN-2000; 2000WO-US000973.
XX
XX 15-JAN-1999; 99US-0116023P.
XX
XX (GETH) GENENTECH INC.
XX
XX Presta IG;
XX
XX WPI; 2000-476035/41.
XX
XX
XX New Fc region-containing polypeptides that have altered effector function
XX due to one or more amino acid modifications in the Fc region, useful in
XX the treatment of cancer and allergic conditions such as asthma.
XX
XX
XX Disclousure; Fig 4B; 132pp; English.
XX
XX
XX The present sequence represents the E27 and anti-IgE antibody heavy
XX chain. The protein is used to produce Fc region-containing polypeptides
XX that have altered effector function as a consequence of one or more amino
XX acid modifications in the Fc region. The variant polypeptides are useful
XX for treating cancer, allergic conditions such as asthma (with an anti-IgE
XX antibody), and LFA-1-mediated disorders, where the polypeptide binds the
XX HER2 receptor, the disorder preferably is HER2-expressing cancer, e.g. a
XX benign or malignant tumour characterized by overexpression of the HER2
XX receptor. Such cancers include breast cancer, squamous cell cancer, small
XX cell lung cancer, non-small cell lung cancer, gastrointestinal cancer,
XX pancreatic cancer, glioblastoma, cervical cancer, ovarian cancer, bladder
XX cancer, hepatoma, colon cancer, colorectal cancer, endometrial carcinoma,
XX salivary gland carcinoma, kidney cancer, liver cancer, prostate cancer,
XX vulval cancer, thyroid cancer, hepatic carcinoma and various types of
XX head and neck cancer
XX
XX
XX Sequence 451 AA;
SQ
Query Match 100.0%; Score 623; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.4e-50;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMWIRQAPKGLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMWIRQAPKGLEWVASIKYSGETKY 60
QY 61 NPSVKGRIITSRDSSKNTFTLQNNSLRAEDTAVYYCARGSHYFGHMFAVWGOG 114
DB 61 NPSVKGRIITSRDSSKNTFTLQNNSLRAEDTAVYYCARGSHYFGHMFAVWGOG 114
RESULT 16
AAB76952
ID AAB76952 standard; protein; 451 AA.
XX
XX AAB76952;
XX
XX 17-APR-2001 (first entry)
XX
XX Full length heavy chain sequence of e27 SEQ ID 18.
XX
XX Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological;

KW antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis;
XX conjunctivitis; eczema; urticaria; food allergy.
XX
XX Synthetic.
XX
XX US6172213-B1.
XX
XX 09-JAN-2001.
XX
XX 30-JUN-1998; 98US-00109207.
XX
XX 02-JUL-1997; 97US-0051554P.
XX
XX (GETH) GENENTECH INC.
XX
XX Lowman HB, Presta IG, Jardieu PM, Lowe J;
XX
XX WPI; 2001-122353/13.
XX
XX
XX New nucleic acid encoding anti-immunoglobulin E antibody with improved
XX properties, produced by substituting aspartyl residues in unimproved
XX immunoglobulin E prone to isomerization by other residues by affinity
XX maturation with phage display.
XX
XX
XX Claim 4; Fig 12; 87pp; English.
XX
XX
XX This invention relates to a nucleotide sequence encoding an antibody with
XX improved anti-IgE antibody activity. The antibody has improved action due
XX to a process comprising, a) identifying aspartyl residues prone to
XX isomerization in unimproved anti-IgE (immunoglobulin E) antibody; b)
XX substituting alternative residues to create candidate molecules, and c)
XX selecting those candidate molecules which display affinity against the
XX target molecule. Use of the antibody results in antiasthmatic;
XX anti-allergic; ophthalmological; dermatological and antiinflammatory
XX activity. The antibodies are useful for treating IgE-mediated disorders
XX such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
XX food allergies. The mutant antibodies produced by the above mentioned
XX nucleic acids may also be used as affinity purification agents and in
XX diagnostic assays for detecting the expression of an antigen of interest
XX in specific cell, tissues or serum. Amino acid sequences AAB76936-
XX AAB76960 represent fragments of anti-IgE antibodies of the invention.
XX Polynucleotide sequence AAF69253 represents an expression plasmid used in
XX the course of the invention, and Oligonucleotides AAF69254 - AAF69271 are
XX used in the generation of affinity improved anti-IgE antibodies
XX
XX
XX Sequence 451 AA;
SQ
Query Match 100.0%; Score 623; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.4e-50;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMWIRQAPKGLEWVASIKYSGETKY 60
DB 1 EVOLVESGGGLVPGGSLRLSCAASGYSITSGYSWMWIRQAPKGLEWVASIKYSGETKY 60
QY 61 NPSVKGRIITSRDSSKNTFTLQNNSLRAEDTAVYYCARGSHYFGHMFAVWGOG 114
DB 61 NPSVKGRIITSRDSSKNTFTLQNNSLRAEDTAVYYCARGSHYFGHMFAVWGOG 114
RESULT 17
AAB74212
ID AAB74212 standard; protein; 451 AA.
XX
XX AAB74212;
XX
XX 17-MAY-2001 (first entry)
XX
XX E27 anti-IgE antibody heavy chain.
XX
XX Antibody; antigen; cancer; allergy; asthma; LFA-mediated; autoimmune;
XX vasculitis.
XX

OS Unidentified.
XX US6194551-B1.
XX 27-FEB-2001.
XX 31-MAR-1999; 99US-00282505.
XX 02-APR-1998; 98US-0080447P.
XX (GETH) GENENTECH INC.
XX Idusogie EB, Presta LG, Mulkerrin MG;
XX WPI; 2001-217935/22.
XX Novel polypeptide variant useful for treating cancers, allergic diseases
PT such as asthma and autoimmune diseases, comprises human immunoglobulin-G
PT Fc region, retains the ability to bind antigen and does not activate
PT complement.
XX Disclosure; Fig 4; 30pp; English.
XX The present invention relates to a variant of an antibody having a human
CC immunoglobulin (Ig) G Fc region, with an amino acid substitution. The
CC mutant retains the ability to bind antigen. The invention is useful for
CC determining the presence of a protein of interest, by exposing the sample
CC suspected of containing the protein to the antibody and determining the
CC binding of it to the sample. The antibody is also useful for treating
CC cancer, allergic conditions including asthma, LFA-mediated disorders,
CC autoimmune disorders and vasculitis
XX Sequence 451 AA;
SQ
Query Match 100.0%; Score 623; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.4e-50;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVOLVESGGGLVOPGSGLRISCAVSGYSITSGYSWMNIRQAPGKLEWVASIKTSGETKY 60
DB 1 EVOLVESGGGLVOPGSGLRISCAVSGYSITSGYSWMNIRQAPGKLEWVASIKTSGETKY 60
QY 61 NPSTVKGRIITSRDSSKNTFYLOMNSLRAPDTAVVYCARGSHYFGHMFPAWVGOG 114
DB 61 NPSTVKGRIITSRDSSKNTFYLOMNSLRAPDTAVVYCARGSHYFGHMFPAWVGOG 114
RESULT 18
ABU62798 standard; protein; 451 AA.
XX ABU62798;
XX 11-SEP-2003 (first entry)
XX E27 anti-immunoglobulin E antibody heavy chain.
XX Anti-body; human immunoglobulin G; autoimmune disorder; E27;
XX anti-immunoglobulin E.
XX Synthetic.
XX US6538124-B1.
XX 25-MAR-2003.
XX 03-OCT-2000; 2000US-00680145.
XX 02-APR-1998; 98US-0080447P.
XX 31-MAR-1999; 99US-00282505.
XX (GETH) GENENTECH INC.

PI Idusogie EB, Presta LG, Mulkerrin MG;
XX WPI; 2003-531086/50.
XX New nucleic acid encodes an antibody variant that binds antigen or an
PT immunoadhesin variant that binds a ligand or receptor, useful for
PT preparing a composition for treating a disorder e.g., autoimmune
PT disorder.
XX Example 1; Fig 4B; 30pp; English.
XX The invention relates to a new isolated nucleic acid that encodes an
CC antibody variant that binds antigen or an immunoadhesin variant that
CC binds a ligand or receptor. The antibody or immunoadhesin variant
CC comprises a human immunoglobulin G Fc region. The nucleic acid is useful
CC for preparing a composition for treating a disorder e.g. autoimmune
CC disorder. The present sequence represents the amino acid sequence of the
CC E27 anti-immunoglobulin E antibody heavy chain
XX Sequence 451 AA;
SQ
Query Match 100.0%; Score 623; DB 6; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.4e-50;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVOLVESGGGLVOPGSGLRISCAVSGYSITSGYSWMNIRQAPGKLEWVASIKTSGETKY 60
DB 1 EVOLVESGGGLVOPGSGLRISCAVSGYSITSGYSWMNIRQAPGKLEWVASIKTSGETKY 60
QY 61 NPSTVKGRIITSRDSSKNTFYLOMNSLRAPDTAVVYCARGSHYFGHMFPAWVGOG 114
DB 61 NPSTVKGRIITSRDSSKNTFYLOMNSLRAPDTAVVYCARGSHYFGHMFPAWVGOG 114
RESULT 19
ADPF69598 standard; protein; 451 AA.
XX ADPF69598;
XX 12-FEB-2004 (first entry)
XX Human anti-IgE antibody E27 heavy chain.
XX heavy chain; human; immunoglobulin; IgG; Fc region; cancer; allergy;
XX autoimmune disease; complement-dependent cytotoxicity reduction;
XX anti-IgE; antibody; E27.
XX Homo sapiens.
XX US2003166868-A1.
XX 04-SEP-2003.
XX 26-FEB-2001; 2001US-00792938.
XX 02-APR-1998; 98US-0080447P.
XX 31-MAR-1999; 99US-00282505.
XX (GETH) GENENTECH INC.
XX Presta LG, Shields RL,
XX WPI; 2003-898108/82.
XX New variant immunoglobulin Fc peptide, useful for diagnosis and treatment
PT of e.g. cancer, has mutation that reduces activation of complement, also
PT related nucleic acid.
XX Disclosure; SEQ ID NO 2; 31pp; English.
XX The invention relates to a variant polypeptide comprising a human
CC immunoglobulin (Ig) G Fc region. The variant polypeptides are used

CC diagnostically, based on their binding to a protein analyte or
CC therapeutically, e.g. in cases of cancer, allergy and autoimmune
CC diseases. The variant polypeptides bind to Fc receptors but do not
CC activate complement, so complement-dependent cytotoxicity is reduced or
CC abolished. The present sequence represents the amino acid sequence of
CC human anti-IgE antibody E27 heavy chain.

XX Sequence 451 AA;

Query Match 100.0%; Score 623; DB 7; Length 451;

Best Local Similarity 100.0%; Pred. No. 2.4e-50;

Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVSGGGLVOPGGSLRLSCAVSGYSTGYSNMWIRQAPKGLEWVASIKYSGETKY 60
DB 1 EVOLVSGGGLVOPGGSLRLSCAVSGYSTGYSNMWIRQAPKGLEWVASIKYSGETKY 60
QY 61 NPSVKGRITTSRDSDSKNTFTLQNMNSLRABDTAVYYCARSGSHYFGHMFAYWGOG 114
DB 61 NPSVKGRITTSRDSDSKNTFTLQNMNSLRABDTAVYYCARSGSHYFGHMFAYWGOG 114

RESULT 20

ADP29039 standard; protein; 451 AA.

XX ADF29039;

DT 12-FEB-2004 (first entry)

DE Anti-IgE antibody E27-heavy chain.

XX antibody; immunoadhesin; variant; human IgG1 Fc region;
KW human IgG2 Fc region; human IgG3 Fc region; human C1q; cancer;
KM autoimmune disorder; affinity purification; anti-IgE; immunoglobulin;
E27; heavy chain.

XX Unidentified.

PN US2003158389-A1.

PD 21-AUG-2003.

PF 12-NOV-2002; 2002US-00292869.

PR 02-APR-1998; 98US-0080447P.

PR 15-JAN-1999; 99US-0116100P.

PR 31-MAR-1999; 99US-00282846.

PA (GETH) GENENTECH INC.

PI Idusogie EE, Presta LG, Mulkerin MG;

DR WPI; 2003-778020/73.

PT New variant of a parent antibody or immunoadhesin polypeptide, comprising
a human IgG1, IgG2 or IgG3 Fc region, useful for preparing a composition
for treating disorders, e.g., cancer or as an affinity purification
agent.

PS Disclosure; SEQ ID NO 2; 39pp; English.

CC The invention relates to a variant of a parent antibody or immunoadhesin
CC polypeptide comprising a human IgG1, IgG2 or IgG3 Fc region, where the
CC variant has a better affinity for human C1q than the parent polypeptide
CC and comprises an amino acid substitution in the IgG Fc region, and where
CC the antibody variant binds an antigen and the immunoadhesin variant binds
CC a ligand or receptor. The variant is useful for preparing a composition
CC for treating disorders, e.g., cancer or autoimmune disorders or as an
CC affinity purification agent. The present sequence represents the anti-IgE
CC antibody E27-heavy chain.

XX Sequence 451 AA;

Query Match 100.0%; Score 623; DB 7; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.4e-50;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVSGGGLVOPGGSLRLSCAVSGYSTGYSNMWIRQAPKGLEWVASIKYSGETKY 60
DB 1 EVOLVSGGGLVOPGGSLRLSCAVSGYSTGYSNMWIRQAPKGLEWVASIKYSGETKY 60
QY 61 NPSVKGRITTSRDSDSKNTFTLQNMNSLRABDTAVYYCARSGSHYFGHMFAYWGOG 114
DB 61 NPSVKGRITTSRDSDSKNTFTLQNMNSLRABDTAVYYCARSGSHYFGHMFAYWGOG 114

RESULT 21

ADN07039 standard; protein; 451 AA.

XX ADN07039;

DT 01-JUL-2004 (first entry)

DE Anti-IgE antibody e27 full length variable light chain (VH).

XX Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder;
KW therapy; atopic allergy; anaphylactic hypersensitivity; asthma;
KM allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy;
variable heavy chain; VH.

XX Unidentified.

PN US6723833-B1.

PD 20-APR-2004.

PF 17-NOV-2000; 2000US-00716028.

PR 02-JUL-1997; 97US-0051554P.

PR 30-JUN-1998; 98US-00109207.

PA (GETH) GENENTECH INC.

PI Lowman HB, Presta LG, Jardieu PM, Lowe J;

DR WPI; 2004-326922/30.

PT New composition of an improved anti-IgE antibody or IgE binding fragment,
useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma,
conjunctivitis, eczema, urticaria or food allergies.

PS Claim 1; SEQ ID NO 18; 89pp; English.

CC The invention relates to therapeutic compositions comprising anti-IgE
CC antibody or IgE binding fragment in combination with an adjunct
CC immunosuppressive agent. The composition is useful for treating IgE-
CC mediated disorders. The disorders include atopic allergy associated with
CC anaphylactic hypersensitivity and asthma, allergic rhinitis and
CC conjunctivitis, eczema, urticaria and food allergies. The present
CC sequence is an anti-IgE antibody variable heavy chain domain (VH).

XX Sequence 451 AA;

Query Match 100.0%; Score 623; DB 8; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.4e-50;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVSGGGLVOPGGSLRLSCAVSGYSTGYSNMWIRQAPKGLEWVASIKYSGETKY 60
DB 1 EVOLVSGGGLVOPGGSLRLSCAVSGYSTGYSNMWIRQAPKGLEWVASIKYSGETKY 60
QY 61 NPSVKGRITTSRDSDSKNTFTLQNMNSLRABDTAVYYCARSGSHYFGHMFAYWGOG 114
DB 61 NPSVKGRITTSRDSDSKNTFTLQNMNSLRABDTAVYYCARSGSHYFGHMFAYWGOG 114

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Search completed: June 3, 2005, 12:44:13
Job time : 71 secs

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LENGTH: 114
TYPE: PRT
ORGANISM: Artificial
FEATURE:
NAME/KEY: Artificial
LOCATION: 1-114
OTHER INFORMATION: Light chain sequence derived from MAE11
US-09-296-005-8

Query Match 100.0%; Score 596; DB 3; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQLTSPSSLSASVGDRTVITCRASKPVDEGSDSYLNMWYQOKPGKAPKLLIYAASYLE 60
DB 1 DIQLTSPSSLSASVGDRTVITCRASKPVDEGSDSYLNMWYQOKPGKAPKLLIYAASYLE 60
61 GVPSRFGSGSGTDFTLTITSLQPEDFATYYCOQSHEDPYTFGQGTKEIKRTV 114

RESULT 3
US-09-920-171-8
Sequence 8, Application US/09920171

PATENT No. 6682735
GENERAL INFORMATION:
APPLICANT: Lowman, Henry B.
APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
TITLE OF INVENTION: Improved Anti-IGe Antibodies (as amended)
FILE REFERENCE: P1123C2US
CURRENT APPLICATION NUMBER: US/09/920,171
CURRENT FILING DATE: 2001-08-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/236,005
PRIOR FILING DATE: 1999-04-21
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 8
LENGTH: 114
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Light chain sequence derived from MAE11
US-09-920-171-8

Query Match 100.0%; Score 596; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQLTSPSSLSASVGDRTVITCRASKPVDEGSDSYLNMWYQOKPGKAPKLLIYAASYLE 60
DB 1 DIQLTSPSSLSASVGDRTVITCRASKPVDEGSDSYLNMWYQOKPGKAPKLLIYAASYLE 60
61 GVPSRFGSGSGTDFTLTITSLQPEDFATYYCOQSHEDPYTFGQGTKEIKRTV 114
61 GVPSRFGSGSGTDFTLTITSLQPEDFATYYCOQSHEDPYTFGQGTKEIKRTV 114

RESULT 4
US-09-716-028-8

Sequence 8, Application US/09716028
PATENT No. 6723833
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IGe Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123R1
CURRENT APPLICATION NUMBER: US/09/716,028
CURRENT FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/109,207
PRIOR FILING DATE: 1998-06-30

PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 8
LENGTH: 114
TYPE: PRT
ORGANISM: Artificial
FEATURE:
NAME/KEY: Artificial
LOCATION: 1-114
OTHER INFORMATION: Light chain sequence derived from MAE11
US-09-716-028-8

Query Match 100.0%; Score 596; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQLTSPSSLSASVGDRTVITCRASKPVDEGSDSYLNMWYQOKPGKAPKLLIYAASYLE 60
DB 1 DIQLTSPSSLSASVGDRTVITCRASKPVDEGSDSYLNMWYQOKPGKAPKLLIYAASYLE 60
61 GVPSRFGSGSGTDFTLTITSLQPEDFATYYCOQSHEDPYTFGQGTKEIKRTV 114
61 GVPSRFGSGSGTDFTLTITSLQPEDFATYYCOQSHEDPYTFGQGTKEIKRTV 114

RESULT 5
US-10-113-996-8
Sequence 8, Application US/10113996

PATENT No. 6761889
GENERAL INFORMATION:
APPLICANT: Lowman, Henry B.
APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
TITLE OF INVENTION: Improved Anti-IGe Antibodies
FILE REFERENCE: P1123C3US
CURRENT APPLICATION NUMBER: US/10/113,996
CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/236,005
PRIOR FILING DATE: 1999-04-21
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR FILING DATE: 2001-08-01
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 8
LENGTH: 114
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Light chain sequence derived from MAE11
US-10-113-996-8

Query Match 100.0%; Score 596; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQLTSPSSLSASVGDRTVITCRASKPVDEGSDSYLNMWYQOKPGKAPKLLIYAASYLE 60
DB 1 DIQLTSPSSLSASVGDRTVITCRASKPVDEGSDSYLNMWYQOKPGKAPKLLIYAASYLE 60
61 GVPSRFGSGSGTDFTLTITSLQPEDFATYYCOQSHEDPYTFGQGTKEIKRTV 114
61 GVPSRFGSGSGTDFTLTITSLQPEDFATYYCOQSHEDPYTFGQGTKEIKRTV 114

RESULT 6
US-08-887-352B-15

Sequence 15, Application US/08887352B
PATENT No. 5994511
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe

TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winpatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/887,352B
FILING DATE: 03-Jul-1997
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1123
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 218 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-887-352B-15

Query Match 100.0%; Score 596; DB 2; Length 218;
Best Local Similarity 100.0%; Pred. No. 2,4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DIQLTQSPSSLSASVGRVITTCRASKRPVDEGDSYLNWYQKRGKAPKLLIYASYLE 60
Db 1 DIQLTQSPSSLSASVGRVITTCRASKRPVDEGDSYLNWYQKRGKAPKLLIYASYLE 60
61 GVPSRFSGSGSDTFTLTISLSLOPEDPATYCCQSHEDPYTFGGGTVEIKRTV 114

RESULT 7
US-08-887-352B-17
Sequence 17, Application US/08887352B
Patent No. 5994511
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardiou, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winpatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/887,352B
FILING DATE: 03-Jul-1997
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.

REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1123
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
LENGTH: 218 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-887-352B-17

Query Match 100.0%; Score 596; DB 2; Length 218;
Best Local Similarity 100.0%; Pred. No. 2,4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DIQLTQSPSSLSASVGRVITTCRASKRPVDEGDSYLNWYQKRGKAPKLLIYASYLE 60
Db 1 DIQLTQSPSSLSASVGRVITTCRASKRPVDEGDSYLNWYQKRGKAPKLLIYASYLE 60
61 GVPSRFSGSGSDTFTLTISLSLOPEDPATYCCQSHEDPYTFGGGTVEIKRTV 114

RESULT 8
US-08-887-352B-19
Sequence 19, Application US/08887352B
Patent No. 5994511
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardiou, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 1 DNA Way
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Winpatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/887,352B
FILING DATE: 03-Jul-1997
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1123
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
LENGTH: 218 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-887-352B-19

Query Match 100.0%; Score 596; DB 2; Length 218;
Best Local Similarity 100.0%; Pred. No. 2,4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DIQLTQSPSSLSASVGRVITTCRASKRPVDEGDSYLNWYQKRGKAPKLLIYASYLE 60
Db 1 DIQLTQSPSSLSASVGRVITTCRASKRPVDEGDSYLNWYQKRGKAPKLLIYASYLE 60
61 GVPSRFSGSGSDTFTLTISLSLOPEDPATYCCQSHEDPYTFGGGTVEIKRTV 114

Db 61 GVPSRFGSGSGTDFLTITISLQPEDPATYCCQSHEDPYTFGQGTKEIKRTV 114

RESULT 9

US-08-887-352B-24
; Sequence 24, Application US/08887352B
; Patent No. 5994511
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
; TITLE OF INVENTION: Improving Polypeptides
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatIn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/887,352B
; FILING DATE: 03-Jul-1997
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Svoboda, Craig G.
; REGISTRATION NUMBER: 39,044
; REFERENCE/DOCKET NUMBER: P1123
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-1489
; TELEFAX: 650/952-9861
; INFORMATION FOR SEQ ID NO: 24:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 218 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
; US-08-887-352B-24

Query Match 100.0%; Score 596; DB 2; Length 218;

Best Local Similarity 100.0%; Pred. No. 2.4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQLTSPSSLSASVGDRTVITTCRASKPVNGBSDSYLNMWYQOKRGAAPKLLIYAASYLE 60

Db 1 DIQLTSPSSLSASVGDRTVITTCRASKPVNGBSDSYLNMWYQOKRGAAPKLLIYAASYLE 60

QY 61 GVPSRFGSGSGTDFLTITISLQPEDPATYCCQSHEDPYTFGQGTKEIKRTV 114

Db 61 GVPSRFGSGSGTDFLTITISLQPEDPATYCCQSHEDPYTFGQGTKEIKRTV 114

RESULT 10

US-09-109-207C-15
; Sequence 15, Application US/09109207C
; Patent No. 6172213
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/109,207C
; CURRENT FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 15
; LENGTH: 218
; TYPE: PRT
; ORGANISM: Artificial

; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-218
; OTHER INFORMATION: Light chain sequence derived from MAR1
US-09-109-207C-15

Query Match 100.0%; Score 596; DB 3; Length 218;

Best Local Similarity 100.0%; Pred. No. 2.4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQLTSPSSLSASVGDRTVITTCRASKPVNGBSDSYLNMWYQOKRGAAPKLLIYAASYLE 60

Db 1 DIQLTSPSSLSASVGDRTVITTCRASKPVNGBSDSYLNMWYQOKRGAAPKLLIYAASYLE 60

QY 61 GVPSRFGSGSGTDFLTITISLQPEDPATYCCQSHEDPYTFGQGTKEIKRTV 114

Db 61 GVPSRFGSGSGTDFLTITISLQPEDPATYCCQSHEDPYTFGQGTKEIKRTV 114

RESULT 11

US-09-109-207C-17
; Sequence 17, Application US/09109207C
; Patent No. 6172213
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/109,207C
; CURRENT FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 17
; LENGTH: 218
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-218
; OTHER INFORMATION: Light chain sequence derived from MAR1
US-09-109-207C-17

Query Match 100.0%; Score 596; DB 3; Length 218;

Best Local Similarity 100.0%; Pred. No. 2.4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQLTSPSSLSASVGDRTVITTCRASKPVNGBSDSYLNMWYQOKRGAAPKLLIYAASYLE 60

Db 1 DIQLTSPSSLSASVGDRTVITTCRASKPVNGBSDSYLNMWYQOKRGAAPKLLIYAASYLE 60

QY 61 GVPSRFGSGSGTDFLTITISLQPEDPATYCCQSHEDPYTFGQGTKEIKRTV 114

Db 61 GVPSRFGSGSGTDFLTITISLQPEDPATYCCQSHEDPYTFGQGTKEIKRTV 114

RESULT 12

US-09-109-207C-19
; Sequence 19, Application US/09109207C
; Patent No. 6172213
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/109,207C
; CURRENT FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 19
; LENGTH: 218
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:

NAME/KEY: Artificial
LOCATION: 1-218
OTHER INFORMATION: Light chain F(ab) sequence derived from MAE11
US-09-109-207C-19

Query Match 100.0%; Score 596; DB 3; Length 218;
Best Local Similarity 100.0%; Pred. No. 2,4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQLTQSPSSLSASVGDRTVITTCRASKRPVDEGDSYLNWYQOKRGA PKLLIYASTLES 60
DB 1 DIQLTQSPSSLSASVGDRTVITTCRASKRPVDEGDSYLNWYQOKRGA PKLLIYASTLES 60
QY 61 GVPSRFSGSGSGTDFTLTISLSLOPEDPATYCCQSHEDPTTFGGGTVEIKRTV 114
DB 61 GVPSRFSGSGSGTDFTLTISLSLOPEDPATYCCQSHEDPTTFGGGTVEIKRTV 114

RESULT 13
US-09-109-207C-24
Sequence 24, Application US/09109207C
Patent No. 6172213
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-1GE Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123C1r
CURRENT APPLICATION NUMBER: US/09/109,207C
CURRENT FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
EARLIER FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 24
LENGTH: 218
TYPE: PRT
ORGANISM: Artificial
FEATURE:
NAME/KEY: Artificial
LOCATION: 1-218
OTHER INFORMATION: Light chain F(ab)'2 sequence derived from MAE11
US-09-109-207C-24

Query Match 100.0%; Score 596; DB 3; Length 218;
Best Local Similarity 100.0%; Pred. No. 2,4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQLTQSPSSLSASVGDRTVITTCRASKRPVDEGDSYLNWYQOKRGA PKLLIYASTLES 60
DB 1 DIQLTQSPSSLSASVGDRTVITTCRASKRPVDEGDSYLNWYQOKRGA PKLLIYASTLES 60
QY 61 GVPSRFSGSGSGTDFTLTISLSLOPEDPATYCCQSHEDPTTFGGGTVEIKRTV 114
DB 61 GVPSRFSGSGSGTDFTLTISLSLOPEDPATYCCQSHEDPTTFGGGTVEIKRTV 114

RESULT 14
US-09-296-005-15
Sequence 15, Application US/09296005
Patent No. 6290957
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-1GE Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123C1r
CURRENT APPLICATION NUMBER: US/09/296,005
CURRENT FILING DATE: 1999-04-21
EARLIER APPLICATION NUMBER: US 08/887,352
EARLIER FILING DATE: 1997-07-02
NUMBER OF SEQ ID NOS: 26
SEQ ID NO 15
LENGTH: 218
TYPE: PRT
ORGANISM: Artificial
FEATURE:
NAME/KEY: Artificial

LOCATION: 1-218
OTHER INFORMATION: Light chain sequence derived from MAE11
US-09-296-005-15

Query Match 100.0%; Score 596; DB 3; Length 218;
Best Local Similarity 100.0%; Pred. No. 2,4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQLTQSPSSLSASVGDRTVITTCRASKRPVDEGDSYLNWYQOKRGA PKLLIYASTLES 60
DB 1 DIQLTQSPSSLSASVGDRTVITTCRASKRPVDEGDSYLNWYQOKRGA PKLLIYASTLES 60
QY 61 GVPSRFSGSGSGTDFTLTISLSLOPEDPATYCCQSHEDPTTFGGGTVEIKRTV 114
DB 61 GVPSRFSGSGSGTDFTLTISLSLOPEDPATYCCQSHEDPTTFGGGTVEIKRTV 114

RESULT 15
US-09-296-005-17
Sequence 17, Application US/09296005
Patent No. 6290957
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-1GE Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123C1r
CURRENT APPLICATION NUMBER: US/09/296,005
CURRENT FILING DATE: 1999-04-21
EARLIER APPLICATION NUMBER: US 08/887,352
EARLIER FILING DATE: 1997-07-02
NUMBER OF SEQ ID NOS: 26
SEQ ID NO 17
LENGTH: 218
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
NAME/KEY: Artificial
LOCATION: 1-218
OTHER INFORMATION: Light chain sequence derived from MAE11
US-09-296-005-17

Query Match 100.0%; Score 596; DB 3; Length 218;
Best Local Similarity 100.0%; Pred. No. 2,4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQLTQSPSSLSASVGDRTVITTCRASKRPVDEGDSYLNWYQOKRGA PKLLIYASTLES 60
DB 1 DIQLTQSPSSLSASVGDRTVITTCRASKRPVDEGDSYLNWYQOKRGA PKLLIYASTLES 60
QY 61 GVPSRFSGSGSGTDFTLTISLSLOPEDPATYCCQSHEDPTTFGGGTVEIKRTV 114
DB 61 GVPSRFSGSGSGTDFTLTISLSLOPEDPATYCCQSHEDPTTFGGGTVEIKRTV 114

RESULT 16
US-09-296-005-19
Sequence 19, Application US/09296005
Patent No. 6290957
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-1GE Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123C1r
CURRENT APPLICATION NUMBER: US/09/296,005
CURRENT FILING DATE: 1999-04-21
EARLIER APPLICATION NUMBER: US 08/887,352
EARLIER FILING DATE: 1997-07-02
NUMBER OF SEQ ID NOS: 26
SEQ ID NO 19
LENGTH: 218
TYPE: PRT
ORGANISM: Artificial
FEATURE:
NAME/KEY: Artificial
LOCATION: 1-218

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; OTHER INFORMATION: Light chain F(ab) sequence derived from MAE11
US-09-296-005-19
Query Match      100.0%; Score 596; DB 3; Length 218;
Best Local Similarity 100.0%; Pred. No. 2,4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQLTQSPSSLSASVGDRTVITTCRASKPVNDEGSDSYLNMWYQQRKAPKLLIYAASYLE 60
DB 1 DIQLTQSPSSLSASVGDRTVITTCRASKPVNDEGSDSYLNMWYQQRKAPKLLIYAASYLE 60
61 GVPSRFGSGSGTDFTLTITSLQPEDPATYCCQSHEDPYTFGGGTVEIKRTV 114

RESULT 17
US-09-296-005-24
; Sequence 24, Application US/09296005
; Patent No. 6290957
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123C1r
; CURRENT APPLICATION NUMBER: US/09/296,005
; EARLIER FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: US 08/887,352
; EARLIER FILING DATE: 1997-07-02
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 24
; LENGTH: 218
; TYPE: PRT
; ORGANISM: Artificial
; FEATURES:
; NAME/KEY: Artificial
; LOCATION: 1-218
; OTHER INFORMATION: Light chain F(ab)'2 sequence derived from MAE11
US-09-296-005-24
Query Match      100.0%; Score 596; DB 3; Length 218;
Best Local Similarity 100.0%; Pred. No. 2,4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQLTQSPSSLSASVGDRTVITTCRASKPVNDEGSDSYLNMWYQQRKAPKLLIYAASYLE 60
DB 1 DIQLTQSPSSLSASVGDRTVITTCRASKPVNDEGSDSYLNMWYQQRKAPKLLIYAASYLE 60
61 GVPSRFGSGSGTDFTLTITSLQPEDPATYCCQSHEDPYTFGGGTVEIKRTV 114

RESULT 18
US-09-920-171-15
; Sequence 15, Application US/09920171
; Patent No. 6682735
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
; FILE REFERENCE: P1123C2US
; CURRENT APPLICATION NUMBER: US/09/920,171
; CURRENT FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 15
; LENGTH: 218
; TYPE: PRT
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; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Light chain sequence derived from MAE11
US-09-920-171-15
Query Match      100.0%; Score 596; DB 4; Length 218;
Best Local Similarity 100.0%; Pred. No. 2,4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQLTQSPSSLSASVGDRTVITTCRASKPVNDEGSDSYLNMWYQQRKAPKLLIYAASYLE 60
DB 1 DIQLTQSPSSLSASVGDRTVITTCRASKPVNDEGSDSYLNMWYQQRKAPKLLIYAASYLE 60
61 GVPSRFGSGSGTDFTLTITSLQPEDPATYCCQSHEDPYTFGGGTVEIKRTV 114

RESULT 19
US-09-920-171-17
; Sequence 17, Application US/09920171
; Patent No. 6682735
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
; FILE REFERENCE: P1123C2US
; CURRENT APPLICATION NUMBER: US/09/920,171
; CURRENT FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 17
; LENGTH: 218
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Light chain sequence derived from MAE11
US-09-920-171-17
Query Match      100.0%; Score 596; DB 4; Length 218;
Best Local Similarity 100.0%; Pred. No. 2,4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQLTQSPSSLSASVGDRTVITTCRASKPVNDEGSDSYLNMWYQQRKAPKLLIYAASYLE 60
DB 1 DIQLTQSPSSLSASVGDRTVITTCRASKPVNDEGSDSYLNMWYQQRKAPKLLIYAASYLE 60
61 GVPSRFGSGSGTDFTLTITSLQPEDPATYCCQSHEDPYTFGGGTVEIKRTV 114

RESULT 20
US-09-920-171-19
; Sequence 19, Application US/09920171
; Patent No. 6682735
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
; FILE REFERENCE: P1123C2US
; CURRENT APPLICATION NUMBER: US/09/920,171
; CURRENT FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
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;; PRIOR FILING DATE: 1999-04-21
;; NUMBER OF SEQ ID NOS: 44
;; SEQ ID NO 19
;; LENGTH: 218
;; TYPE: PRT
;; ORGANISM: Artificial Sequence.
;; FEATURE:
;; OTHER INFORMATION: Light chain F(ab) sequence derived from MAE11
US-09-920-171-19

Query Match 100.0%; Score 596; DB 4; Length 218;
Best Local Similarity 100.0%; Pred. No. 2,4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DIQLTQSPSSLSASVGRVITTCRASKRPVDEGSDSYLNMWYQKPKAKPLIYAASYLES 60
Db 1 DIQLTQSPSSLSASVGRVITTCRASKRPVDEGSDSYLNMWYQKPKAKPLIYAASYLES 60

Qy 61 GVPSRFSGSGSGTDFTLTITSSLOPEDPATYTCQOSHEDPYTFGGGTKEIKRTV 114
Db 61 GVPSRFSGSGSGTDFTLTITSSLOPEDPATYTCQOSHEDPYTFGGGTKEIKRTV 114

RESULT 21
US-09-920-171-24
;; Sequence 24, Application US/09920171
;; Patent No. 6682735
;; GENERAL INFORMATION:

;; APPLICANT: Lowman, Henry B.
;; APPLICANT: Presta, Leonard G.
;; APPLICANT: Jardieu, Paula M.
;; APPLICANT: Lowe, John
;; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
;; FILE REFERENCE: P1123C2US
;; CURRENT APPLICATION NUMBER: US/09/920,171
;; CURRENT FILING DATE: 2001-08-01
;; PRIOR APPLICATION NUMBER: US 08/887,352
;; PRIOR FILING DATE: 1997-07-02
;; PRIOR APPLICATION NUMBER: US 09/296,005
;; PRIOR FILING DATE: 1999-04-21
;; NUMBER OF SEQ ID NOS: 44
;; SEQ ID NO 24
;; LENGTH: 218
;; TYPE: PRT
;; ORGANISM: Artificial Sequence
;; FEATURE:
;; OTHER INFORMATION: Light chain F(ab)'2 sequence derived from MAE11
US-09-920-171-24

Query Match 100.0%; Score 596; DB 4; Length 218;
Best Local Similarity 100.0%; Pred. No. 2,4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DIQLTQSPSSLSASVGRVITTCRASKRPVDEGSDSYLNMWYQKPKAKPLIYAASYLES 60
Db 1 DIQLTQSPSSLSASVGRVITTCRASKRPVDEGSDSYLNMWYQKPKAKPLIYAASYLES 60

Qy 61 GVPSRFSGSGSGTDFTLTITSSLOPEDPATYTCQOSHEDPYTFGGGTKEIKRTV 114
Db 61 GVPSRFSGSGSGTDFTLTITSSLOPEDPATYTCQOSHEDPYTFGGGTKEIKRTV 114

RESULT 22
US-09-716-028-15
;; Sequence 15, Application US/09716028
;; Patent No. 6723833
;; GENERAL INFORMATION:

;; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
;; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
;; FILE REFERENCE: P1123R1
;; CURRENT APPLICATION NUMBER: US/09/716,028
;; CURRENT FILING DATE: 2000-11-17
;; PRIOR APPLICATION NUMBER: US 09/109,207

;; PRIOR FILING DATE: 1998-06-30
;; PRIOR APPLICATION NUMBER: US 60/051,554
;; PRIOR FILING DATE: 1997-07-03
;; NUMBER OF SEQ ID NOS: 44
;; SEQ ID NO 15
;; LENGTH: 218
;; TYPE: PRT
;; ORGANISM: Artificial
;; FEATURE:
;; NAME/KEY: Artificial
;; LOCATION: 1-218
;; OTHER INFORMATION: Light chain sequence derived from MAE11
US-09-716-028-15

Query Match 100.0%; Score 596; DB 4; Length 218;
Best Local Similarity 100.0%; Pred. No. 2,4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DIQLTQSPSSLSASVGRVITTCRASKRPVDEGSDSYLNMWYQKPKAKPLIYAASYLES 60
Db 1 DIQLTQSPSSLSASVGRVITTCRASKRPVDEGSDSYLNMWYQKPKAKPLIYAASYLES 60

Qy 61 GVPSRFSGSGSGTDFTLTITSSLOPEDPATYTCQOSHEDPYTFGGGTKEIKRTV 114
Db 61 GVPSRFSGSGSGTDFTLTITSSLOPEDPATYTCQOSHEDPYTFGGGTKEIKRTV 114

RESULT 23
US-09-716-028-17
;; Sequence 17, Application US/09716028
;; Patent No. 6723833
;; GENERAL INFORMATION:

;; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
;; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
;; FILE REFERENCE: P1123R1
;; CURRENT APPLICATION NUMBER: US/09/716,028
;; CURRENT FILING DATE: 2000-11-17
;; PRIOR APPLICATION NUMBER: US 09/109,207
;; PRIOR FILING DATE: 1998-06-30
;; PRIOR APPLICATION NUMBER: US 60/051,554
;; PRIOR FILING DATE: 1997-07-03
;; NUMBER OF SEQ ID NOS: 44
;; SEQ ID NO 17
;; LENGTH: 218
;; TYPE: PRT
;; ORGANISM: Artificial
;; FEATURE:
;; NAME/KEY: Artificial
;; LOCATION: 1-218
;; OTHER INFORMATION: Light chain sequence derived from MAE11
US-09-716-028-17

Query Match 100.0%; Score 596; DB 4; Length 218;
Best Local Similarity 100.0%; Pred. No. 2,4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DIQLTQSPSSLSASVGRVITTCRASKRPVDEGSDSYLNMWYQKPKAKPLIYAASYLES 60
Db 1 DIQLTQSPSSLSASVGRVITTCRASKRPVDEGSDSYLNMWYQKPKAKPLIYAASYLES 60

Qy 61 GVPSRFSGSGSGTDFTLTITSSLOPEDPATYTCQOSHEDPYTFGGGTKEIKRTV 114
Db 61 GVPSRFSGSGSGTDFTLTITSSLOPEDPATYTCQOSHEDPYTFGGGTKEIKRTV 114

RESULT 24
US-09-716-028-19
;; Sequence 19, Application US/09716028
;; Patent No. 6723833
;; GENERAL INFORMATION:

;; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
;; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
;; FILE REFERENCE: P1123R1

```
/ CURRENT APPLICATION NUMBER: US/09/716,028
/ CURRENT FILING DATE: 2000-11-17
/ PRIOR APPLICATION NUMBER: US 09/109,207
/ PRIOR FILING DATE: 1998-06-30
/ PRIOR APPLICATION NUMBER: US 60/051,554
/ PRIOR FILING DATE: 1997-07-03
/ NUMBER OF SEQ ID NOS: 44
/ SEQ ID NO 19
/ LENGTH: 218
/ TYPE: PRT
/ ORGANISM: Artificial
/ FEATURE:
/ NAME/KEY: Artificial
/ LOCATION: 1-218
/ OTHER INFORMATION: Light chain F(ab) sequence derived from MAE11
US-09-716-028-19
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Query Match 100.0%; Score 596; DB 4; Length 218;
Best Local Similarity 100.0%; Pred. No. 2.4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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```
QY 1 DIQLTQSPSSLSASVGDVVTITCRASKRPVDEGDSYLNWYQKRGKAPKLLIYAASYLES 60
DB 1 DIQLTQSPSSLSASVGDVVTITCRASKRPVDEGDSYLNWYQKRGKAPKLLIYAASYLES 60
QY 61 GVPSRFGSGSGGDTFTLTISLQPEDPATYTCQOSHEDPYTFGGTVEIKRTV 114
DB 61 GVPSRFGSGSGGDTFTLTISLQPEDPATYTCQOSHEDPYTFGGTVEIKRTV 114
```

```
RESULT 25
US-09-716-028-24
/ Sequence 24, Application US/09716028
/ Patent No. 6723833
/ GENERAL INFORMATION:
/ APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
/ TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
/ FILE REFERENCE: P1123R1
/ CURRENT APPLICATION NUMBER: US/09/716,028
/ CURRENT FILING DATE: 2000-11-17
/ PRIOR APPLICATION NUMBER: US 09/109,207
/ PRIOR FILING DATE: 1998-06-30
/ PRIOR APPLICATION NUMBER: US 60/051,554
/ PRIOR FILING DATE: 1997-07-03
/ NUMBER OF SEQ ID NOS: 44
/ SEQ ID NO 24
/ LENGTH: 218
/ TYPE: PRT
/ ORGANISM: Artificial
/ FEATURE:
/ NAME/KEY: Artificial
/ LOCATION: 1-218
/ OTHER INFORMATION: Light chain F(ab)'2 sequence derived from MAE11
US-09-716-028-24
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Query Match 100.0%; Score 596; DB 4; Length 218;
Best Local Similarity 100.0%; Pred. No. 2.4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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```
QY 1 DIQLTQSPSSLSASVGDVVTITCRASKRPVDEGDSYLNWYQKRGKAPKLLIYAASYLES 60
DB 1 DIQLTQSPSSLSASVGDVVTITCRASKRPVDEGDSYLNWYQKRGKAPKLLIYAASYLES 60
QY 61 GVPSRFGSGSGGDTFTLTISLQPEDPATYTCQOSHEDPYTFGGTVEIKRTV 114
DB 61 GVPSRFGSGSGGDTFTLTISLQPEDPATYTCQOSHEDPYTFGGTVEIKRTV 114
```

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RESULT 26
US-10-113-996-15
/ Sequence 15, Application US/10113996
/ Patent No. 6761889
/ GENERAL INFORMATION:
```

```
/ APPLICANT: Lowman, Henry B.
/ APPLICANT: Presta, Leonard G.
/ APPLICANT: Jardieu, Paula M.
/ APPLICANT: Lowe, John
/ TITLE OF INVENTION: Improved Anti-IgE Antibodies
/ FILE REFERENCE: P1123C3US
/ CURRENT APPLICATION NUMBER: US/10/113,996
/ CURRENT FILING DATE: 2002-04-01
/ PRIOR APPLICATION NUMBER: US 08/887,352
/ PRIOR FILING DATE: 1997-07-02
/ PRIOR APPLICATION NUMBER: US 09/296,005
/ PRIOR FILING DATE: 1999-04-21
/ PRIOR APPLICATION NUMBER: US 09/920,171
/ PRIOR FILING DATE: 2001-08-01
/ NUMBER OF SEQ ID NOS: 44
/ SEQ ID NO 15
/ LENGTH: 218
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Light chain sequence derived from MAE11
US-10-113-996-15
```

```
Query Match 100.0%; Score 596; DB 4; Length 218;
Best Local Similarity 100.0%; Pred. No. 2.4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 DIQLTQSPSSLSASVGDVVTITCRASKRPVDEGDSYLNWYQKRGKAPKLLIYAASYLES 60
DB 1 DIQLTQSPSSLSASVGDVVTITCRASKRPVDEGDSYLNWYQKRGKAPKLLIYAASYLES 60
QY 61 GVPSRFGSGSGGDTFTLTISLQPEDPATYTCQOSHEDPYTFGGTVEIKRTV 114
DB 61 GVPSRFGSGSGGDTFTLTISLQPEDPATYTCQOSHEDPYTFGGTVEIKRTV 114
```

```
RESULT 27
US-10-113-996-17
/ Sequence 17, Application US/10113996
/ Patent No. 6761889
/ GENERAL INFORMATION:
/ APPLICANT: Lowman, Henry B.
/ APPLICANT: Presta, Leonard G.
/ APPLICANT: Jardieu, Paula M.
/ APPLICANT: Lowe, John
/ TITLE OF INVENTION: Improved Anti-IgE Antibodies
/ FILE REFERENCE: P1123C3US
/ CURRENT APPLICATION NUMBER: US/10/113,996
/ CURRENT FILING DATE: 2002-04-01
/ PRIOR APPLICATION NUMBER: US 08/887,352
/ PRIOR FILING DATE: 1997-07-02
/ PRIOR APPLICATION NUMBER: US 09/296,005
/ PRIOR FILING DATE: 1999-04-21
/ PRIOR APPLICATION NUMBER: US 09/920,171
/ PRIOR FILING DATE: 2001-08-01
/ NUMBER OF SEQ ID NOS: 44
/ SEQ ID NO 17
/ LENGTH: 218
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Light chain sequence derived from MAE11
US-10-113-996-17
```

```
Query Match 100.0%; Score 596; DB 4; Length 218;
Best Local Similarity 100.0%; Pred. No. 2.4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 DIQLTQSPSSLSASVGDVVTITCRASKRPVDEGDSYLNWYQKRGKAPKLLIYAASYLES 60
DB 1 DIQLTQSPSSLSASVGDVVTITCRASKRPVDEGDSYLNWYQKRGKAPKLLIYAASYLES 60
QY 61 GVPSRFGSGSGGDTFTLTISLQPEDPATYTCQOSHEDPYTFGGTVEIKRTV 114
```

Db 61 GVPSPFSGSGGTDFTLTISLQPEDPATYCCQSHSDPYTFGGGTVEIKRTV 114

RESULT 28
US-10-113-996-19
Sequence 19, Application US/10113996
Patent No. 6761889

GENERAL INFORMATION:

APPLICANT: Lowman, Henry B.
APPLICANT: Presta, Leonard G.
APPLICANT: Jardiou, Paula M.
APPLICANT: Lowe, John

TITLE OF INVENTION: Improved Anti-IGB Antibodies
FILE REFERENCE: P1123CJUS

CURRENT APPLICATION NUMBER: US/10/113,996
CURRENT FILING DATE: 2002-04-01

PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02

PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21

PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR FILING DATE: 2001-08-01

NUMBER OF SEQ ID NOS: 44
SEQ ID NO 19
LENGTH: 218
TYPE: PRT
ORGANISM: Artificial Sequence

FEATURE:
OTHER INFORMATION: Light chain F(ab) sequence derived from MAE11
US-10-113-996-19

Query Match 100.0%; Score 596; DB 4; Length 218;
Best Local Similarity 100.0%; Pred. No. 2.4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQITQSPSSLSASVGRVTITTCRASKPVDEGSDSYLNWYQOKPKKLIYAASYLES 60
Db 1 DIQITQSPSSLSASVGRVTITTCRASKPVDEGSDSYLNWYQOKPKKLIYAASYLES 60

QY 61 GVPSPFSGSGGTDFTLTISLQPEDPATYCCQSHSDPYTFGGGTVEIKRTV 114
Db 61 GVPSPFSGSGGTDFTLTISLQPEDPATYCCQSHSDPYTFGGGTVEIKRTV 114

RESULT 29

US-10-113-996-24
Sequence 24, Application US/10113996
Patent No. 6761889

GENERAL INFORMATION:
APPLICANT: Lowman, Henry B.
APPLICANT: Presta, Leonard G.
APPLICANT: Jardiou, Paula M.
APPLICANT: Lowe, John

TITLE OF INVENTION: Improved Anti-IGB Antibodies
FILE REFERENCE: P1123CJUS

CURRENT APPLICATION NUMBER: US/10/113,996
CURRENT FILING DATE: 2002-04-01

PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02

PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21

PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR FILING DATE: 2001-08-01

NUMBER OF SEQ ID NOS: 44
SEQ ID NO 24
LENGTH: 218
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Light chain F(ab)'2 sequence derived from MAE11
US-10-113-996-24

Query Match 100.0%; Score 596; DB 4; Length 218;
Best Local Similarity 100.0%; Pred. No. 2.4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQITQSPSSLSASVGRVTITTCRASKPVDEGSDSYLNWYQOKPKKLIYAASYLES 60
Db 1 DIQITQSPSSLSASVGRVTITTCRASKPVDEGSDSYLNWYQOKPKKLIYAASYLES 60

QY 61 GVPSPFSGSGGTDFTLTISLQPEDPATYCCQSHSDPYTFGGGTVEIKRTV 114
Db 61 GVPSPFSGSGGTDFTLTISLQPEDPATYCCQSHSDPYTFGGGTVEIKRTV 114

Search completed: June 3, 2005, 12:42:57
Job time : 23 secs

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